

saturn

a beginner's guide to using the internet
at rowan college of new jersey

version 1.3, march 1994 (e-text version)

by kyle cassidy
office of academic computing
rowan college of new jersey
(cassidy@rowan.edu)

Copyright (c) 1994 Kyle Cassidy

Permission is granted to make and distribute verbatim copies of this document throughout cyberspace provided the copyright notice and this permission notice are preserved on all copies.

Permission is granted to modify and distribute this document provided that this copyright notice remains intact and the document is clearly labeled as "modified."

You may freely distribute this manual only on the condition that you don't sell it for a profit. Feel free to charge for duplicating costs -- the paper is yours, the information on it belongs to me and I'm casting it onto the winds of cyberspace. Nuff said.

This text was composed on WordPerfect 5.1 for DOS on a 386SX/25 machine, processor by Cyrix. Though I suppose if I was adequately enthusiastic about this project, I would have done the whole thing on the VAX with the VMS typesetting utility, DSR (I may be dumb, but I am not *silly*.) All the typos and layout inconsistencies are (ala) mine. If you see one, I'd be grateful if you'd point it out to me. TNX 1.0E6.

ACKNOWLEDGEMENTS (you can skip this part)

Writing something like this is a lot like climbing a mountain. (Although to be completely honest I have never climbed a mountain, so more likely than not I am embellishing somewhat.) When you finish, you expect a press conference to be held where AP reporters in houndstooth fedoras ask: "How did you do it?" "Did you hear voices at the highest altitudes?" and invariably some smart aleck will want to know about snow leopards. However, you come to discover that when what you have accomplished is a manual for the VMS operating system, people tend to look upon your success as less of a mountain and more of something to swat at flies with if it is concise and a device to prop children up to the dinner table with if comprehensive. *Oh well*. Somewhere in the history of the universe, a VMS manual-writer must have angered the gods – it would appear that this ennui is their revenge.

Throughout the production of this text I have drawn upon the technical expertise of various personages whom I need to thank: klein@mars, berman@saturn, daro@saturn, sysop@elan, dries@gboro, jimb@3do.com, anthrlib@msuvx1.memst.edu; cimprich@saturn who gave me the go-ahead and supported me in this venture – even to the extent of respecting my opinions and abilities, undergraduate grunt that I am; beta-testers, del, halll, & greenspan (all @saturn) who pointed out various egregious evils throughout; Karen M. who loaned me her *Sisters of Mercy* bootlegs, without which I would not have had the stamina nor the discipline to finish this; & of course, linda@myheart.com

Published by the Office of Academic Computing, Rowan College of New Jersey, Glassboro NJ 08028. Bugs and flames to **cassidy@saturn.rowan.edu**.

Table of Contents

What exactly am I doing?	1
Some Questions You May Have About the Internet	3
USENET News	8
Electronic Mail	20
FINGER and TALK	28
File Transfer Protocol: <i>FTP</i>	32
TELNET	42
EVE	45
IRC	51
The VMS Operating System	56
How To Call SATURN From Home	61
ARCHIE	62
Getting Files To Your Home Computer	67
Conclusion	69
Appendix A: How to Type Like a Cyberdweeb	71
Appendix B: Computer Terms	75
Bibliography	83
INDEX	85

The VAX, a design now entering its second decade, continues to revolutionize the computer industry and business. It's the Porsche 911 of computers; the VAX architecture is a rich and timeless design.

– David W. Bynon *Mastering VMS*, 1-24

What exactly am I doing?

So you've heard about this *Internet* thing, from a friend, in the newspaper, from that spiffy cutting-edge publication *Venue*, something like that and you want to look around (call it "*surfing the Net*" you'll sound sophisticated) and see what's out there.... This is not a problem. Rowan is in the habit of making it very easy to get an Internet account. Many other colleges restrict access or charge for accounts, so consider yourselves lucky campers. One of the computers which handles a good deal of student accounts is called SATURN. This document will help you to manoeuver through the Internet on the computer SATURN.

One of the lamentable things you are about to discover, is that in utilizing the Internet through SATURN, you are using the VAX/VMS operating system. VMS is about as user friendly as a gangland slaying. If you become frustrated, don't feel bad. Many experienced computer users would rather shove flaming sticks into their eyes than use VMS. On the up side, you don't have to know much about the VAX to use the Internet. This document will take you step by step through several aspects of Internetting from the VAX terminals.

BACKGROUND

Sometime around the fall of 1992, I expressed an interest in creating a FAQ (Internet jargon for "Frequently Asked Questions") file for using the Internet with SATURN, the VAX run by the Office of Academic Computing. I'd been using it for a few months, and although it was fun, it was esoteric as well. I'd been filling my little notebooks with useful junk and periodically picking the brain of A.C.'s local VMS guru (a dubious distinction), Bruce Klein. Bruce finally got tired of all my dumb questions and gave me a shelf of VMS manuals (the possession of which may also prove to be a dubious distinction). The idea to create a FAQ fell upon stony ground. A few months then passed and for some reason Internet usage on campus exploded (accounts more than doubled.) Suddenly everybody seemed to be using SATURN, sometimes one could find ten or twelve users on it at a time (presumably most of them were doing Internet stuff, since there's not a whole heck of a lot of recreational uses for VMS (There is *Galactic Trader* we may or may not discuss **that** later.)) Jack Cimprich, the head of Academic Computing asked Bruce if he could write up some sort of users guide for the VAX. Apparently Bruce would rather drink lye than write a user manual for VMS, but he remembered that I had wanted to do it a few months back....

What you have here is not a comprehensive guide, but hopefully it will be adequate to get a user to the point where he or she can begin to intuitively discover what has been left out.

A NOTE ON THE TEXT

Throughout the text, lines and characters that are printed on or by the computer are shown in the ugly looking `courier` type font. Lines and characters that represent what the user is entering on the computer are shown in the **bold courier** type font. This should help you distinguish input from output. Also, things which take place on the computer screen are indented. USENET news groups are printed in **bold**. Program names are shown in ALL CAPS throughout the text. Though I tend to use them arbitrarily, VT-220's sometimes distinguish between the [return] key and the [enter] key (those keyboards will have both) I have no idea why. If I have deviated from this anywhere in the text, I assure you it is accidental and not a malicious design to trip you up. I'd appreciate it if you'd point out any inconsistencies.

BEFORE YOU START

If you're having trouble at the start you might want to glance over the chapter on using the EVE text editor since using the Net you and EVE will be running into one another rather frequently. Also, there is a useful glossary at the end of this document that might help you understand some terms you're not familiar with.

Some Questions You May Have About the Internet

Question #1: "*What is the Internet?*" A good question, and a very difficult one. In the most physical terms there is no Internet. There is no big white room filled with blinking lights and technicians and bubbling liquid nitrogen tanks to which we can point and say "this is the Internet!" rather than being a single entity, the Internet is a group of computers which span the globe and are connected to one another like a giant electronic octopus. And likewise, there is no one driving the Internet, there is no "president," no board of directors. The ruling force of "the Net" is nothing short of sheer anarchy. (This you will soon discover has it's pluses and minuses.) The million armed octopus has a million brains, each dictatorially responsible for its own arm and each with very little influence over anything else. Through this connection the computers can share information. This may sound innocuous enough at first, until you realize that there are uncounted millions of computers connected to the Net, several hundred here at Rowan alone.

Question #2: "*How do I get an Internet account?*" To use the Internet, you have to have an account, which is also your e-mail address. Just see Bruce Klein in Academic Computing, which is also in the Robinson building. (If Bruce isn't there, someone else can point you to the appropriate paperwork.) Bruce will do some wizard stuff and say something like "You're set." You're set.

Question #3: "*Just where do I get on the Internet?*" Well, for right now, the easiest place is in Robinson room 311, the open lab, you've probably been in there and probably seen that row of crusty looking *things* in the back of the room, strange computers with ugly green or amber screens, no disk drives. Just what are they? Well, they are not computers, they are video terminals (VT's) made by Digital Equipment Corporation, hence, they are known as DEC terminals (learn something new every day). They are pretty much exactly what they appear to be, screens and keyboards, they are connected to a big computer called SATURN which is somewhere ELSE. (As for where it is, I'll leave that for you to discover.) It is this computer which resides ELSEWHERE that is

connected to the Internet.

Question #4: "*What is SATURN and why use it?*" SATURN is a VAX 4000, also made by the Digital Equipment Corporation. At the time of its purchase it cost about a hundred thousand dollars. It sells for substantially less now. It is a big machine and quite adept at multi tasking, 20 people can be logged on at once and SATURN won't flinch. Why use it? is a more difficult question. SATURN is arcane, difficult, and not nearly as spiffy as a Macintosh when it comes to computers. There *are* PC's connected to the Internet which are much more user friendly, so why use SATURN at all if it's so bad? Well, firstly, in Robinson it is difficult to get to one of these PC's, which are in rooms 325 and 303 and are reserved for classes, and secondly SATURN *isn't* so bad. There are certain benefits to using the VAX over a PC. Besides being a heck of a lot of fun, SATURN is easy to call into from off campus. I read the bulk of my electronic mail and do most of my Internetting from home, calling SATURN over a modem line. SATURN is not very picky about what you use to call in, whether it is a Commodore, an Apple, an IBM, or a dumb terminal, you can use just about anything. As you get more and more experienced, you will begin to discover wonderful things available on SATURN such as the TALK and FINGER programs which open up new worlds of interest.

SATURN

Question #5: "How do I log onto one of these terminal things?" Easy enough. The terminals are actually connected to *several* computers which reside ELSEWHERE, one of these is SATURN where your account is, so you have to select SATURN. There could be any of several things on the terminal screen when you sit down at it. The first and best is a prompt that says:

```
serve303>1
```

If this happens to be the case, type C SATURN [return]. What you are doing is telling the powers of computer magic to **C**onnect you to **SATURN** – this makes sense in a twisted fashion. You will then get a prompt that says something like:

```
Rowan College of New Jersey Academic Vax 4000
```

```
Username:
```

then you type in your account name (usually your own name) and press [return]. (It is also possible that when you sit down at the terminal, you will see a prompt that says

```
Username:
```

if this is the case, try logging in, you might already be connected to SATURN. If the computer gives you grief, turn the terminal off and on again (computer geeks call this a *120 reset* or hitting the "Big Red Switch" (regardless of what color it is); saying either of these things will instill confidence in all those around you).

Next, the computer will prompt you for your

```
Password:
```

enter your password and press [return]. When you first get an account, your username and your password are the same. If this is the case, you will have to change your password as soon as you log in for security reasons.

¹It might also say something like local_5>; don't worry about it.

Internet Users Guide

After all these interactions have happily transpired, you will see a bunch of jargon and finally the prompt

\$

For some reason, when the people at DEC invented VMS they decided that the \$ would be an innocuous prompt. It means that the VAX is waiting for a command. (Personally, I can't stand the \$ prompt; luckily, it's very easy to change.)

To change your password type

set password

you will be prompted for your old password; enter it (you won't see it appear on the screen, security reasons again, wouldn't want people looking over your shoulder now would you?), then when you are prompted for your new password, enter that. It's easy.

It's important to remember that just because you're logged into SATURN you're not necessarily using (some computer geeks will say "jacked" into) the Internet. SATURN is a computer with many functions; "the Net" is only one of them.

Lastly, when you sit down at the screen, someone else could have forgotten to log out and you might see the \$ prompt. In this event, it is considered polite to log them out by typing

lo

rather than doing something awful. Then feel free to log yourself in.

Question #6: "*How do I log out?*" Never never never never leave a terminal without logging out first. People can and will do horrible things to you if you do, like posting ridiculous messages all over USENET in your name. To log out, type lo at the \$ prompt. Turning the terminal off does *not* log you out. When you turn the terminal off, you are in effect only turning off the monitor, the computer itself is in another room and you may find that you're still logged on days later. (If this does happen you can type STOP YOUR_ACCOUNT_NAME) at the \$ prompt and it will fix

everything.)

Question #7: "*Now what?*" once you've got the \$ prompt, type MENU. You don't have to deal with VMS ever again. The menu looks like this

and is relatively easy to use. The menu is subject to change as useful things are added, so it may not look exactly like this. Soon there should be a "logout" option, as well as options for FTP and TELNET which are not currently available through the menu. The menu is *not* the be-all and end-all of SATURN. It was basically hacked together by The Lord High Fixer, Bruce Klein, one afternoon because some people with large fingers were having trouble remembering commands. As Bruce finds better things to do with his time, menu updates may be few and far between. You are probably *better off* (certainly in the long run) not using the menu. But as I said, the choice is yours.

Question #8: "*How do I MUD?*" You TELNET to MUDs, which are games run on computers across the net. Reading **rec.games.mud** (see USENET News below) will help you find places to do this. Currently there is no school policy on game playing but this could change if the privilege is abused. Use a little common sense, **students needing a terminal for school work (or even something as innocuous as reading their e-mail) always take precedent over game playing.** MUDs can be terrific fun, but they're only the tip of the iceberg, there are many other exciting things on the Internet awaiting discovery.

Question #9: "*How much does all this cost?*" Many people are familiar with organizations like *Compuserve* or *America On Line* which provide computer services for an hourly or monthly fee. The Internet however, is free – to the end user at least. Rowan College pays a certain amount of money every year for our Internet connection and doles out accounts to students, faculty, and alumni free of charge. Other colleges may charge fees for accounts, this thankfully is not the case here. If you TELNET from Glassboro to Singapore for 94 hours and 6 minutes one month, Rowan's Internet bill will not be one cent more. On the Internet there are no such things as "incurring toll charges," because no one is making any "long distance" calls. The lines upon which Internet traffic travel are mostly lines which are leased on a monthly or yearly basis, regardless of the amount of traffic they get. So

Internet Users Guide

don't feel guilty. I know it's sort of like someone telling you it's okay to leave the door open with the air conditioner running but you'll get used to it.

Question #10: "*How do I view gifs on SATURN?*" Hold your breath until the college buys a bunch of SGI workstations. Gif's are binary image format files (pictures) which a PC or a Macintosh can display but your terminal never will. The closest you'll get to a gif on a SATURN terminal is some clever ASCII art. If you *have* a GIF on SATURN you can move it to a PC (see chapter 6 on FTP) and look at it there.

USENET News

USENET News is probably a good place to start fiddling with the Internet. Many people don't see much of a need to go any farther. When most new users think of the Internet, it is actually USENET News which they are thinking of. Many people confuse USENET with the Internet. USENET is not the Internet. In fact, the more experienced a user you become, the less important USENET will probably seem to you. USENET News will be a familiar concept to those of you who have used a computer Bulletin Board System (BBS). USENET is an open discussion forum where people "post" messages that other people can read. These discussions are filled with useful information, as well as lots of name calling and generally childish behavior. A perfect example of how USENET News can be useful is this: Say your roommate is an ardent Dead Head who has a complete collection of Grateful Dead bootlegs from 1971 to 1992 except for an Oakland show on the seventh of June 1973 which he just can't find anywhere. Say also that his birthday is coming up in a couple of weeks. If you were to post a message in the USENET group **rec.music.gdead** somewhere between 45,000 and 90,000 people would probably read that message. There's a good chance that one of them has a 6/7/73 Oakland tape that they'd be more than happy to send you in exchange for a dollar twenty-five in postage. If your iguana, Admiral Poindexter, seems to be particularly listless and suffering from scale-rot, a post to **rec.pets.herpetology** would let 20 or 30 thousand reptile enthusiasts mull over your problem and offer suggestions. There are many other useful, interesting, and repugnant groups on USENET (**alt.binaries.sounds.armpit.noises** for example – is there really a market in digitized sounds of armpit noises?) "Messages" are stored within "newsgroups" which can be thought of as folders in a filing cabinet which is owned by a bunch of people who never see one another. The folders are grouped together by subject, just like in real life. Unlike real life (which cyberpunks call "RL") lots of people are always poking around inside the filing cabinet reading things that have been left there and scribbling on them. So if you're looking for a vegetarian restaurant, you could stick a note in the folder marked "vegetarian restaurants" saying "Where's a good one near Glassboro?" and someone would write underneath it "There isn't one. Try Phili. There's one at 1000 Arch St. called the _South East Chinese Restaurant_ 215-629-1888." which you could read next time you checked the file folder.

There are all sorts of *news readers*, programs which format the way which USENET News will appear to you. Fortunately the newsreader used on SATURN is a simple and effective one. (In the event that you get on *Jeopardy* and one of the topics is "Computer Newsreaders on SATURN," the newsreader that you're going to be using is called ANU NEWS. ANU NEWS was written by some nice people at the Australian National University in Canberra, Australia. (We're currently using version 6.0 which came out in 1990.) The ANU people wrote this software to be used locally, within a company or an

organization as a sort of assistant to e-mail. They only made it Internet compatible as an afterthought. (What sagacity way back there in 1990!)

STARTING OUT

USENET News is located on the menu under the **Applications** heading, it's called Net News, or you can just type NEWS at the \$ prompt, it's up to you. After you've selected news, you'll see

Connecting to server @ gboro (using TCP [UCX])
Retrieving newsgroups:

which will be followed by a few rows of dots which will appear over the next few seconds. It takes a long time to call up news, so don't be afraid if your terminal looks frozen for a minute or so, it's not. A lot of data is being transferred between machines. (One of the main reasons that Rowan chose to use ANU NEWS is because it allows the actual news data to be kept on another machine. This is called a "diskless" client. SATURN has limited disk space.) After the data is loaded you will see a new screen like this:

NEWSGROUPS REGISTERED, 5

Newsgroup		count	unread
->alt.activism	123	123	
alt.alien.visitors	6	6	
gsc.announce	21	9	
gsc.classified	14	2	
rec.motorcycles	4221	4221	

the list of groups will be different of course. The number of registered groups will change from time to time – don't worry about it. SATURN automatically registers you to every new group that is created (so you don't miss out on any action). The COUNT tag is how many messages are posted to this group, the UNREAD tag tells you how many of those messages you haven't read. Simple. You can move up and down through this list by using the arrow keys, when you find something interesting, such as **alt.alien.visitors**, pressing [return] will "open" that group, one of two things will happen: 1) You will be greeted with a list of subject lines, these are the "subjects" of the messages posted there. 2) Nothing will happen, there are no messages posted in the group. (The count tag would have read 0.) Many of the groups on USENET are no longer used by anyone, **alt.desert.storm** for example is a group which has seen its heyday long ago. Other groups are jokes, created by people who thought it would be funny to start a group called **alt.swedish.chief.bork.bork.bork**.

Let's say for now that there have been some messages posted to **alt.alien.visitors** and we open it up, we would see a screen something like this:

ALT.ALIEN.VISITORS: Items (#1 - #6) Reg:1 Prot:RW Srv:@gboro

	Title	From	Lines	Date
-> 1	Ufo's took my baby away	cassidy@saturn.rowan.edu		
2	Landing at Stonehenge	z3442@zorp.com		
3	Life on Mars	phil@foo.bar.com		
4	Re: Life on Mars	zarph1@some.computer.gov		
5	Re: Life on Mars	nic@nat.noo.edu		
6	Re: Life on Mars	borp@mush.moo.edu		

The subject of the message hopefully tells us something about it, the "lines" tag is how many lines long the message is (these are frequently run over by the "from" don't worry about it). Let's say we're interested in the message "Life on Mars", move down to it by pressing the down arrow, then press [return] to open it. The message will look something like this:

Group: alt.alien.visitors Item 3 (Current Item Range #1-#6)
Subject: Life on Mars
From: phil@foo.bar.com
Date: Tue, 20 Jul 1993 15:21:22 GMT

Last week some spacemen landed in my yard. I fed them Otter Pops which they seemed to like, though they told me through sign language they had some problems digesting. Then they emitted a green beam and I was rendered semi-conscious. They took all the little houses out of my Monopoly game. I asked them where they were from, they pointed toward Mars.

NEWS>

There are several things we could do now. Firstly, we could CLOSE the message: typing "close" would take us back to the previous screen, the subject headings. Secondly, we might want to reply to this message, send personal e-mail to phil@foo.bar.com saying that we had a similar experience. To do this, type REPLY; this will toss us into our mail editor with the TO heading already filled out. A handy tool. We might want to send this mail to a friend who is very interested in this sort of thing. To do this, type FORWARD. Lastly we might want to FOLLOW the message with an experience of our own. Typing "follow" would get us a prompt that says:

newsgroups: alt.alien.visitors

SATURN

this gives us a chance to add other groups to the distribution of the message. For now, just press [return], for a screen that looks like this:

In article <phil.321.234123452@foo.bar.com>, phil@foo.bar.com writes:

>Last week some spacemen landed in my yard. I fed them Otter >Pops which they seemed to like, though they told me through >sign language they had some problems digesting. Then they >emitted a green beam and I was rendered semi-conscious. They >took all the houses out of my Monopoly game. I asked them where >they were from, they pointed toward Mars.

[end of file]

followed by some stuff at the bottom. The text of the message we are following is included, preceded by "attribution marks", in this case the ">" (you can change these, but >'s are fairly standard). You can edit the message to remove things that aren't pertinent and add your own comments. Our final message might look like this:

In article <phil.321.234123452@foo.bar.com>, phil@foo.bar.com writes:

>Last week some spacemen landed in my yard. I fed them Otter >Pops which they seemed to like,

It has been my experience with spacemen, that Fruit Loops are the only thing that they will consistently eat without developing severe digestive problems. Giving them Otter Pops is dangerous!

>I
>asked them where they were from, they pointed toward Mars.

In all likelihood, they were actually pointing to Venus, a visit by Martians is rare, while Venusians are always dropping by our planet to get copies of *T.V. Guide*.

[end of file]

pressing ctrl-z will now post this article to USENET. You'll see that any lines that didn't pertain to our points about extra-terrestrial digestion have been deleted. It isn't necessary to do this, but it's considered impolite to quote an entire message and then add two lines at the bottom. Remember as well, that thousands of people are going to read **alt.alien.visitors** tomorrow and if you sound like an idiot a lot of people are going to know about it. When you're done using USENET, a final ctrl-z at the "newsgroups" screen will exit.

Rowan College has a number of groups which are available only to students of the college, these groups have names which begin with *rowan* (fancy that). It would be a very Good Idea if you post to one of these groups first, just to get the hang of it.

SKIPPING MESSAGES

There are times that you don't want to be troubled with reading new messages, if say for example you have just returned from vacation and haven't been reading news in a couple of weeks, you might not want to muddle through the 2,542 unread messages in **rec.motorcycles**.

When you are "registered" to a group, that means that SATURN will keep track of what messages you have read and have not read in that group. After we have read message number three, "Life on Mars" the message subject will no longer be highlighted. This is a handy way to keep from reading the same message over and over again. When you are done reading messages in a news group, type CLOSE, and then when you have the subject page again, type SKIP at the group **alt.alien.visitors**, this will mark all the messages in this group as "read", so that you won't see them again when you log back on.

ALT.ALIEN.VISITORS: Items (#1 - #6) Reg:1 Prot:RW Srv:@gboro

	Title	From	LinesDate
->	1 Ufo's took my baby away	cassidy@saturn.rowan.edu	
	2 Landing at Stonehenge	z3442@zorp.com	
	3 Life on Mars	phil@foo.bar.com	
	4 Re: Life on Mars	zarph1@some.computer.gov	
	5 Re: Life on Mars	nic@nat.noo.edu	
	6 Re: Life on Mars	borp@mush.moo.edu	

SAVING MESSAGES

From time to time you will undoubtedly come across a message that contains useful data that you might want to reference later. To save a message, just type **save** *item range*. Where "item range" is the range of messages you want saved. If you only want to save the current message, you can type **save** by itself. `save 1-10` would save messages 1-10. There are several options you might want to use with it which I will include here:

`/FILE=output_file_name` tells SATURN what filename to save the message under.

`/ALL` saves all the messages in that newsgroup to a specified file.

`/APPEND` glues the message onto the end of the specified file. So if someone posts "cool_things_FAQ part 1 of 4" you can save it and `/APPEND` parts 2,3, and 4 to it.

`/TITLE="title"` will save all files whose titles contain the specified word. This could be used to save all the messages in a particular thread.

Example:

```
save /file=stupid.txt
```

will save the current message as "stupid.txt;1". (See chapter 10 for more on version numbers and VMS filenames.)

REGISTERING AND DEREGISTERING NEWSGROUPS

At last count, there were over 2,000 newsgroups carried by Rowan, this is a staggering amount of information, and no one person is going to have the time nor the inclination to sort through all of it every day. It is for this reason a Good Idea to keep the number of newsgroups which appear on your screen as few as possible. SATURN keeps a list of the groups which you are subscribed to; when you first log on, the default is ALL. What do you do if you sell your motorcycle after breaking your foot playing motor-polo at an Internet Motorcycle Club Ride 'n Feed Rally and never want to see a motorcycle again? Well, obviously you're not going to be reading **rec.motorcycles** again. So, by typing DEREGISTER at that newsgroups subject line, SATURN will make it so that you don't see that group when you log onto news. Of course you don't want to have to DEREGISTER 1990 groups

to get the ten that you want, *there is an easier way*. Firstly, go through the list of groups and pick out a few that you might want to read, and write these names down on a piece of paper, then at the newsgroup subject menu, type DEREGISTER /ALL. This will unsubscribe you from *all* the groups on USENET News, you can now type REGISTER followed by the name of a group you *want* to read:

```
REGISTER rowan.comp_soc
```

will subscribe the group **rowan.comp_soc**, you can then repeat this procedure for the groups you are interested in reading. Also, you will notice that when you log on, you are subscribed to groups that you didn't sign up for. Saturn automatically subscribes you to newly created groups so that you know they exist. Simply DERESISTER from the ones that you don't want.

If you later want to register to some new groups, typing

DIR/ALL

at the NEWS> prompt will show you all the available newsgroups. The ones which you are registered to will appear in **bold** text, and the ones which you aren't registered to will be displayed in normal text. When you have registered to those you're interested, typing

DIR/REGISTER

will again display only the groups to which you are currently registered.

FINDING WHAT YOU WANT IN A NEWSGROUP USING SEARCH

SEARCH is possibly the most useful tool you will find in NEWS. It allows you to tell SATURN to go through dozens or hundreds of messages and look for a particular word or series of letters.² Let's say for example that you're looking for a one way ticket to Sheboygan Wisconsin to attend the Cheese Festival and you know that people on **rec.travel.air** are always selling one way legs on that newsgroup for great prices. So you register to **rec.travel.air** and open the newsgroup up, only to find that there are 2,107 messages in it. Now what! By the time you find what you're looking for, the

²Computer geeks call a word or a series of letters a "string" – don't ask me why. So if someone says to you "Yeah, I searched for the string, but I couldn't find it." you'll know they probably weren't looking for a length of twine.

Cheese Festival will be over! Never fear, VMS to the rescue. You can position the indicator at the message where you want to commence searching and type

SEARCH sheboygan

and SATURN will begin searching through messages. As soon as it finds the "string" it will open up that message with the appropriate word highlighted. You can continue searching for the same "string" in subsequent messages by merely typing

SEARCH

no string is required. SATURN will assume that you want to look for the same word again. There are a number of "switches" you can use to modify your search, search multiple news groups, etc. You can use HELP to find out more about them. Be warned, the SEARCH command is a real CPU hog. If there are a lot of people on and SATURN is being particularly sluggish, initiating a SEARCH can bring everything to an ugly halt.

HIERARCHIES (WHERE DO I LOOK FOR THE GOOD STUFF?)

You will soon discover that USENET is broken up into lots of tiny pieces. We have looked at an insignificant number of them. Computer people are obsessed by "path names", i.e. the *name* of something intuitively telling you *where* to find it. Like if you were to name your bathroom "second_floor/third_door_on_left" people wouldn't have to ask you "where's your "second_floor/third_door_on_left", they'd know. For what it's worth, this is how USENET works. Groups are broken down into one of several categories. At our particular site, there are perhaps twenty-five different "prefixes" which the groups may begin with. Some of these are:

alt: "alternative." The alt groups are helter-skelter, they are not considered "real" USENET groups and any bozo who feels like it can create one (and they do). Alt groups are created without voting. Some of them tend to live fast, live fast and die, or live slow and die, or just plain die right off the bat with no mucking about, depending. The distribution (availability) of these groups is eclectic, hence, if you have a friend in Peoria who says "hey, check out **alt.my.name.is.bob** it's really cool!" you will find that we don't happen to get a group called **alt.my.name.is.bob**, and conversely, your friend in Peoria might not get **alt.exploding.kibo** (but thankfully we do.)

Internet Users Guide

bionet: "biology network." As one might expect, the groups which begin with "bionet" are biology related.

bit.listserv: These groups are part of "bitnet mailing lists." Bitnet is an archaic part of the Internet designed by IBM (as apparently are most things designed by IBM). Bitnet does have a terrific variety of *listserv*'s. (Check out the chapter on listserv's and mailing lists for a more detailed explanation.) These are some of the more popular ones.

biz: "business related."

comp: "computers." As you might suspect, everything in the **comp** hierarchy deals with computer. Examples: **comp.sys.ibm.pc.games**, **comp.unix.wizards**.

ieee: "Institute of Electronic and Electrical Engineers." If you're wondering how many potatoes it will take to power your television, this is where you want to start looking for plans.

gnu: "Gnu's Not Unix." Gnu is part of the Free Software Foundation. They're an ideological sort who try to advance a particular philosophy about software. They believe, among other things, that when you buy a computer program you ought to be able to modify it. So any Gnu software you get will come with the source code. This may not be terribly important to *you* but it is to computer geeks. Gnu makes a very powerful chess program.

k12: "kindergarten through twelfth grade." As you might expect, these groups are used primarily by school children. It's interesting to note that their conversation is not radically different from that of most people on the Net (though they use far fewer expletives and their sexual innuendos are not as juvenile.) I've found that the real culprits here are the *k12 teachers* who rarely seem to have anything interesting to say. Children who have access to the k12 groups through schools can't read **alt.k12.teachers** but *you* can. (Don't let it swell your head.) It can be fun to eavesdrop.

misc: "miscellaneous." This is sort of the "protista" of USENET. Anything that no one knows what to do with goes here. Notable among them are the

misc.forsale and **misc.forsale.wanted** hierarchies, which can be useful.

sci: "science." Look for science related topics here.

soc: "social." Groups on people and interaction. Many ethnic discussions can be found here, in the **soc.culture** hierarchy, such as **soc.culture.british**. Also the nesting ground of **soc.penpals**, a good way to get net-friends.

talk: "talk." Groups in the "talk" hierarchy tend towards the "flame-war" side of things. These are usually discussions that people take seriously and that also have no hope of ever being resolved. **talk.origins** for example, deals with the origins of life on earth.

news: "news." These deal with USENET. Many useful groups are to be found here, such as **news.answers**, which contains FAQ files from all the USENET groups. Also **news.newusers.questions**, a forum for fielding questions by new users.

rec: "recreation." Things such as sports, art, games, etc. can be found here. Examples: the ever popular **rec.motorcycles**, and **rec.games.chess**.

rowan: "rowan." Groups of interest to Rowan College students alone. These groups can't be read off campus (and why would anybody want to?). This is the best place to practice USENETting ... that's what they're there for.

vmsnet: "VMS networks." If you happen to find a VAX in the trash and take it home, set it up in the basement and start installing terminals around your house, these are the people who can help you when you start to run into technical problems. It's basically sophisticated technobabble about the VMS operating system.

Once you become familiar with the prefixes, you'll begin to have an idea of how to find things. So if you were looking for a newsgroup devoted to the discussion of J.R.R. Tolkien's books, (which there is btw) you could probably figure out that it would be called something like **rec.arts.books.tolkien** and probably not to be found under **sci.bionet** anywhere.

"SIG" FILES

You will see that many posts to USENET have a "signature" attached to them, something that looks like

```
--  
kyle cassidy                "i was gratified to be able to  
cassidy@saturn.rowan.edu    answer immediately. i said i  
office of academic computing didn't know." -- mark twain
```

or some such similar nonsense. This is a way to give USENET readers a ubiquitous non sequitor that tells something about yourself. If you happen to collect antique fountain pens, putting "I collect antique fountain pens" in your "sig" file might get you e-mail from someone who saw a post you made on **alt.westley.crusher.die.die.die** saying that she too collects fountain pens and do you want to swap. ANU NEWS will support signature files. (Also called ".sig" because on a UNIX machine, the signature's filename is .signature.) If you must have a .sig (and it's not necessarily a bad idea) keep it to 3 or 4 lines at the most. You'll see people with 10 or 15 line sigs and soon realize how annoying it is. To make a sig, use EVE to create a file called "SIGNATURE.TXT" and put your sig in that file. Then, use EVE to create a file called "LOGIN.COM" or edit it if you already have one. LOGIN.COM is the equivalent of DOS' AUTOEXEC.BAT, a file which is executed every time you log onto the computer. Put the line

```
$ DEFINE MAIL_SIGNATURE $DISK1:[STUDENT.YOUR_ACCOUNT_NAME]SIGNATURE.TXT
```

in the LOGIN.COM file. This tells SATURN where to find your sig file. Problems will arise if you are a GUEST using SATURN, you're account might be located on \$DISK1:[GUEST] instead of \$DISK1:[STUDENT]. If you get an error, try changing that. If you still can't get it to work you may just have to suffer unless you can find help from some VMS wizzard on **rowan.support**.

SOME IMPORTANT FINAL WORDS BEFORE YOU POST

Since so many people are going to see your posting, you should not post carelessly. Read before you post. Many groups provide Frequently Asked Questions (**FAQ**) files for the benefit of everybody. If you are a frequent reader of the group **rec.music.gdead** you are probably tired of hearing questions like "What are the names of the members of the Grateful Dead?", "How do I get tickets to their shows," and "Where do I get a tour schedule?"

To avoid re-hashing the same topics over and over, answering the same questions again and again these **FAQs** have been created by users of the newsgroup. The people in **rec.arts.books** for example, got so tired of people asking "Who wrote The monkeys paw?" that they included it in their FAQ file. (It's W.W. Jacobs, btw.) If you post a silly question without reading the **FAQ** you're liable to get *flamed*, which is the USENET practice of sending disparaging e-mail to people who commit a *faux pas* of one variety or another. USENET is made up of a wide variety of people, many of them not overly forgiving. **FAQs** are usually posted weekly or monthly, and posting the message "will somebody please send me the **FAQ**" is more acceptable than asking a question that everyone is sick of hearing.

Be polite when posting and answering posts, remember that there is a person on each end and the Internet in the middle – don't send anybody mail that you wouldn't want to get yourself, if given a choice between sending someone a nasty-gram and ignoring an inane post, ignore the post.

POSTING FOR HELP ON HOMEWORK

Of course one would be a fool to overlook the research potential of the Internet – hopefully that is why you are learning how to use it. *However*, there is a right and a wrong way to go about getting this information. Posting to a message to **rec.arts.books** that says "Can somebody send me a 3 page synopsis of William Faulkner's *The Sound and the Fury*?" is transparent and will probably get you flamed by a bunch of people shouting "Do your own homework edu-breath!" When posting regarding homework, it is considered USENET-polite to say that is what you are doing, therefore, a post such as: "I'm doing a paper on William Faulkner's *The Sound and the Fury*. My Thesis is: 'Faulkner uses the character Dilsey to demonstrate stability.' I would like the input of Net-Wisdom. If anybody would care to discuss this, please e-mail." would generate much more helpful information. People are much more willing to talk to you if they know that you know something about the topic. The people that you are trying to reach (in this case, Faulkner buffs) probably don't care to write somebody's research paper for them, but they probably are inclined to offer suggestions, and may even be interested in reading what you have already written. Net-Wisdom like this can be invaluable, since at not a few of the **rec.arts.books** readers probably have Ph.D.'s, and some of them might teach Faulkner regularly.

EDIT YOUR FOLLOWUPS

I can't stress this enough. When following a message, assume that

Internet Users Guide

your reader has a general idea of what the topic is. Edit out all irrelevant lines you can summarize what you deleted in brackets if you want, such as [argument about burger king deleted] **no one** wants to read fifty four quoted lines to find your one line response at the end. When I read a USENET posting (and this is probably true of many others) if the first page contains only quoted lines, I skip the message.

Electronic Mail

On the menu, under UTILITIES, you will find the MAIL option. Electronic mail is one of the most exciting aspects of the Internet, with it, it is possible to send a message to a user on the other side of the world in less time than it takes Dominos to get a pizza to your house. (My average time to Australia is about 5 minutes.) Your electronic mail address provides the Internet with all the information necessary for messages to find you on the Net. It is quite likely that your best friend from high school who got married and moved to Sheboygan Wisconsin has some type of e-mail access, whether this is through the Internet, or CompuServe, or America On Line or whatever. Your friend might ask you for your e-mail address in order to send you electronic mail. This would be:

`your_account_name@saturn.rowan.edu`

This is what is called "Internet format". There are other types of addresses which use weird signs; you'll see e-mail addresses with ! and % signs in them, worry about those later. For example, my e-mail address is `cassidy@saturn.rowan.edu`; any mail sent on the Internet with that as the **To:** field will get to me.

In order for computer to be able to find one another on the network, it is important that they all have unique names. Each computer which is attached to the Internet has such a name, many of them are funny (the computers "Ren" and "Stimpy" at the university of Miami), some are stupid, most are purely functional ("msuvx1" for example is the name of one of the computers at Memphis State University – it stands for **MemphisStateUniversityVaXnumber1**) and most computers are named in groups. Rowan's real VAXen, (the ones used to run the college) are named after comic book characters, Thing, Hulk, Storm, etc.) Academic Computing's computers are named after gods (Mars, Saturn, Elan, Charon, etc). Computers are suffixed with Domain Names, names that attempt to descriptively tell who or what they are, these names are separated by periods. Thus **saturn.rowan.edu** is the computer named "SATURN" at the domain called "rowan" and the "edu" stands for "EDUcational facility" (you can guess yourself where the computer called "**whitehouse.gov**" is located and who it belongs to.)

SENDING MAIL

Let's say for example that you want to send e-mail to our old friend phil@foo.bar.com. Firstly, invoke MAIL either through the menu, or by typing (strangely enough) MAIL at the \$ prompt.³ You'll get a new prompt that looks like this:

³NOTE: The first time you use mail, you should type

SET EDITOR TPU

at the MAIL> prompt. This will set your mail editor to the EVE text processor, the default is a program called EDT which is very user hostile. EVE is nice. After you've set your editor to TPU you won't have to do it again.

MAIL>

This is a distinctive prompt, much more utilitarian than the \$. From the MAIL utility we want to send mail, so we type in SEND. At the To: prompt, we enter phil's electronic mail address:

phil@foo.bar.com

We are then asked for a subject. Subjects are optional. Press [return] when you're done. You are then dumped into the EVE editor, you'll see an [end of file] marker at the top of the screen. As you type, the EOF marker will move down the screen. Don't type anything after it. (If for some reason, the screen becomes jumbled and your cursor seems to drop beneath the EOF marker, pressing ctrl-w will wipe the screen and reformat it, doing this will not hurt your text.) When you're done typing your message, Ctrl-z will send it off to Phil. (Read the chapter on EVE for more on this.)

READING MAIL

If you have new mail, you will be notified when you log on, or when it arrives. To read new mail, press [return] at the MAIL prompt. After you are done reading the mail message, type **del** to delete it. If you don't delete the message, it will be saved as old mail. Sometimes it is helpful to save important messages, but it is also important to keep the amount of old mail saved in your account as low as possible.

To read an old message, type DIR at the mail prompt (you can't have new mail when you do this, or only your new mail will be listed). Your old messages will be listed, entering the number of the message you want to read will bring it up. After a message has been selected, you may REPLY to it, FORWARD it, or DElete it.

SENDING MAIL TO AMERICA ON LINE AND COMPUSERVE

It may come to pass that a friend of yours has an account with America On Line or Compuserve. Both these companies provide Internet like services including electronic mail. Each uses a propriaty mailing system that is geared towards local (i.e. within the company) use. So your friend who has an AOL account might say "Send me e-mail, my account name is DYLLANB" And being the astute individual that you are, you would immediately think "hey, there's something wrong here!" Things would get worse when your friend on

Compuserve tells you to "E-mail me at 7111,723." What is that? an account name? If you try to tell SATURN to send mail to "7111,723" it will laugh at you. Luckily both AOL and Compuserve both have *gateways*, computers that act as a sort of translator between their individual cyber-islands and the rest of the networked world. You have to send mail to these gateways which will then figure out how to get the mail to your pals. To send mail to America On Line, simply put **@AOL.COM** at the end of the e-mail address ("**dyllanb@aol.com**" then). To send mail to Compuserve, change the comma to a period and add **@COMPUSERVE.COM** to the end of the address ("7111.732@compuserve.com").

OUR PARTICULAR VERSION OF MAIL

VMS mail as it came packaged with the VAX was intended to support a local network, say the campus, or an office building. It was created with a few hundred users in mind and therefore it isn't suited for the millions of possible addresses to be found on the Net. For that reason, SATURN runs a modified version of the VMS MAIL utility. The modification is a program called "MX Mail" if anyone ever asks you. (And it's not far fetched that someone will say "Hey, what mailer are you using?")

CREATING A DISTRIBUTION LIST

At time you may have the desire to send the same message to a large group of people. Let's take a practical application. Say that I have a list of the e-mail addresses of everyone who has purchased a copy of this SATURN guide. It would be nice if I could e-mail them all updates and errata sheets etc. when they came out. At last count however, there are something like 500 copies of this manual floating about in our local universe. I for one, don't get paid enough to type an errata sheet 500 times and mail it out to a list of people no matter how much I like them. (Even if it involved *Black Sabbath* getting back together and playing a free bar-b-q at my house I probably wouldn't have the inclination to send mail to 500 people.) Luckily Digital thought of this when they put MAIL together. They realized that Wanda T. Corporate-Manager would have different groups of people that she wanted to send lists to, so they created a "Distribution List" option. Using a distribution list I can send *one* mail message to the distribution list, and VMS will see that this message is propagated and distributed to everyone on it. The actual creation and use of a distribution list is easier than tying your shoes. Here is goes:

STEP 1: Create a file using EVE. The file can be called whatever you want it to, but it must end in the extension .dis (For example, guide-update-list.dis).

STEP 2: In this list, put the e-mail addresses of everyone you want the mail to go to. Example:

```
KERSHENBLATT
DRIES@GBORO
ANTHRLIB@MSUVX1.MEMST.EDU
CHASKES
JOLEARY@AOL.COM
IDOL@WELL.SF.CA.US
```

STEP 3: Save the file.

STEP 4: When sending mail to the list, in the **To:** field, put @listname.dis (For example guide-update-list.dis).

STEP 5: Send your message. Either type it, or use the *include file* option.

STEP 6: Think how much time you've saved. Send FTD flowers and candy samplers to the nice people at DEC.

MAIL FOLDERS

Though it is entirely possible to survive in this world without using mail folders, it is an unpleasant experience.

MAIL allows you to organize your mail by putting it in *folders*. This is one of the few times that Digital gave something a name that makes sense. (You just try and figure out what F\$GETDVIO is supposed to do!) The three default folders are MAIL, NEWMAIL, and WASTEBASKET. New mail is kept in the NEWMAIL folder until it is read, at which time it becomes old mail and is moved automatically to the MAIL folder. Deleted mail is temporarily placed in the WASTEBASKET folder until you exit from MAIL at which time it is discarded into the cold vacuum of space.

You move about through the folders by using the SELECT command. New folders are created by MOVEing mail to them. Practical application:

Let's say that when I enter MAIL I find the following three messages:

Internet Users Guide

#	From	Date	Subject
1	MX%"idol@well.sf.ca.us	28-FEB-1994	Eudora
2	MX%"beavis@mtv.com	28-FEB-1994	Fire. Heh.
3	SMITHJ	28-FEB-1994	Help!

I read message number one, it's from someone telling me were to find the off-line Macintosh mail program *Eudora*. But since I don't like off-line mail programs, I delete the message. Message number two is a hilariously funny story about two chickens, a troop of boy scouts, and the Stanford Marching Band. It's so funny that I want to keep it to read over and over, so I type:

move funny

mail will respond with:

Folder FUNNY does not exist.
Do you want to create it (Y/N, default is N)?

I tell MAIL "yes" and the folder is created, that message is stuffed inside it. The "default is N" business means that if I just hit [ENTER], MAIL will assume that I mean "no". Message #3 turns out to be from someone who is looking for a copy of *Eudora* the Macintosh off-line mail program. Rats! I can't remember the FTP site, but luckily, MAIL doesn't delete messages until you exit from the program, so I can type

select wastebasket

wastebasket. 1 message selected

forward 1 z

message forwarded.

SMITHJ now has the location of *Eudora*. In the midst of this flurry of activity, a message appears on my screen

new mail from "president@white-house.gov"

This new mail is automagically put in the NEWMAIL folder, so I select that.

select newmail

1 message selected

Now I can read my new mail in the time honored fashion.

HOW TO SEE YOUR FOLDERS

Great. You've got all these folders, how do you see what they are? From the MAIL> prompt, the command

dir /folders

will show you.

HOW TO DELETE A FOLDER

Got extras? delete the folder by deleting all the messages in it. Select the folder, and type

del /all

EXTRACTING MAIL TO A FILE

Say someone sends me a file that I want to use. Clare, for existence might send me a mail message containing the e-mail addresses of everyone who bought a SATURN guide and I might want to make a distribution list out of this. I can *extract* the mail into my root directory by using the (get this) EXTRACT command.

extract /noheader guide-update-list.dis

the /noheader switch tells MAIL to chop off the headers which would confuse the distribution list otherwise. Of course I could just type

extract guide-update-list.dis

and then use EVE to manually chop out the header.

CHANGING YOUR PERSONAL NAME

When you send a mail message to someone, the **From:** line in the header looks like this

```
From: cassidy@saturn.rowan.edu "Kyle Cassidy"
```

This is useful in identifying the sender on systems where your account name is not necessarily *your* name. (On ELAN for example, my account name is *cass8806*, people getting mail from me at that address would have to look at my *personal name* to see who it was from.

MAIL allows you to change your *personal name* with the **set personal_name** command. For example, from the MAIL> prompt

```
set personal_name "Darth Vader"
```

the command

```
show personal_name
```

(at the MAIL> prompt) would return

```
Your Personal Name is "Darth Vader"
```

People would still get mail from **cassidy@saturn.rowan.edu**, but the name "Darth Vader" would be tagged onto the end. Changing your personal name is usually considered childish and you'll have a hard time getting people to take you seriously if your personal name is "Ace Computer God", but I think everyone does it at least once.

HAVING YOUR MAIL FORWARDED TO A DIFFERENT ACCOUNT

Let's say that you're going to visit your old friend Phlox who lives in Desmoins. You're going to be there for a week and you know that you'll just rot away if you can't read your e-mail. I know how you feel. Luckily, Phlox is not living entirely in the Dark Ages, she has an account with America On Line. It would be nice if you could TELNET from there to here and read your mail, but AOL doesn't support TELNET, at least not yet. Rats. There is another option though, you can have your e-mail autoforward to Phlox's account. (Oh goodie!) At the MAIL> prompt type

set forward mx%""phlox@aol.com""

Don't ask what all the quotation marks are for. Typing

show forward

at the MAIL> prompt will show you if you have forwarding turned on. When you get back from Desmoins, type

set noforward

to turn it off.

VALIDITY AND SECURITY OF ELECTRONIC MAIL

It would be wrong to assume that e-mail is as secure as old fashioned "snail" mail. It is not too difficult for someone who knows what they are doing to read your electronic mail, also, it is likewise not too difficult for someone who knows what they are doing to send you mail with the return address "president@whitehouse.gov" (or any other return address for that matter). Therefore, if the message you are sending someone requires the utmost privacy, either *encrypt* your mail before you send it (using some encryption utility like PGP which you can find on the Net) or send it through the U.S. Snail.

FINGER and TALK

The Internet has ways for users to find and communicate with one another. If *mail* is analogous to the postal service, FINGER and TALK are comparable to the phone company. Let's say for example that you and several friends want to invite me to lunch at Taco Bell. Sending me e-mail may be futile, since you're leaving in a few moments – if I'm not logged on, there's no way I'd get the message in time. The FINGER command allows you to see who is logged onto a particular system at a particular time. Therefore typing

finger @saturn.rowan.edu⁴

will give you

Node: SATURN (saturn.rowan.edu)

Date: 8-NOV-1993 15:38

Uptime: 4 days, 05:01 hours (since 4-NOV-1993 10:36)

CASSIDY	Kyle Cassidy	bizlab210.rowan	11/08 10:24
CHADWICK	Melissa Chadwick		11/08 15:04
GREENSPAN	Arthur Miller		11/08
14:54			
MURPHYM	Michael Murphy		11/08 15:15
SETH	Seth Bergmann	150.250.1.100	11/08 08:53
SYSTEM	SYSTEM	zeus.rowan.edu	11/08 13:54

Total of 6 users logged on.

ah ha, there I am. Aside from FINGERing at a particular computer (in this case SATURN) you can also FINGER individual users. If you were to type

finger cassidy@saturn.rowan.edu

you would see

⁴This is the long way – I mention it this way because it will keep you out of trouble – if you are logged into SATURN as well, merely typing finger would be enough – the computer assumes the rest. Likewise, if you were logged into ELAN, typing finger @saturn would be enough, ELAN would assume that you meant the SATURN at Rowan.

```
[saturn.rowan.edu]
Login name: CASSIDY           In real life: Kyle Cassidy
Directory: $DISK1:[STUDENT.CASSIDY]
On since: 8-NOV-1993 10:24:43 on TNA3: from bizlb2.rowan.edu
Has no new mail.
Project:
install terminals in the rat. complete this saturn users manual.
Plan:
plan? plan? oh geez. don't ask me that. i've no idea.
```

The FINGER program (called a daemon) will let you know how long I've been logged on, where I'm logged on from (in this case the business lab) and whether or not I have new mail. This can be helpful if for example you've sent me mail and haven't heard from me, you might want to check and see if I've logged in recently and read my mail. FINGER also provides users with a chance to let the world know a little bit about themselves. The *project* and *plan* files are visible to anyone who FINGERS you. Usually these files contain some quote, quip or ascii drawing – but they can be used for more serious things. (finger quake@geophys.washington.edu for example will give you a project file containing information on recent earthquakes (and there are more than you think!), finger@mtv.com will give you information about that organization, instructions for getting on, etc..)

To make your own *project* and *plan* files, all you have to do is create a text file called project.txt and one called plan.txt, FINGER will do the rest. In this example, SATURN is telling you that I've been logged on since 10:24 – I'm probably ready for lunch by this point. If you were to send me e-mail now I'd get it in time. But what if there were several things that needed clarification before we left? Say for example you wanted to remind me to bring the disk with Castle Wolfenstien 3D on it, and there were driving arrangements to work out, and you are not actually sure that I'll want to go to Taco Bell – things that might take 3 or 4 e-mails to work out. Well, there is a better way. Typing

talk cassidy@saturn.rowan.edu

would open up a two way "TALK session" similar to a phone conversation. Your screen would be divided into two halves, top and bottom, and a message

```
Message from Talk_Daemon@saturn.rowan.edu at 15:35
talk: connection requested by your_name@saturn.rowan.edu.
talk: respond with: talk your_name@saturn.rowan.edu
```

would appear on my screen. If I was in the middle of something important I could ignore this – it's just like the phone ringing. At the top of your screen

the message

[waiting for your party to respond]

would appear. When I answered the TALK request (by typing talk user@host), this would be replaced by

[connection established]

Once the connection is established, we could both type at the same time, your words would appear, character by character as you typed them, on the top of the divided screen, and mine would appear at the bottom.

TALK is also very useful if your girlfriend is going to the University of Miami and your phone bill is getting outrageous.... If the two sites TALKing at one another are very far apart there may be a slight delay (one second is about the most severe TALK delay I've ever seen) but it's still better than paying AT&T.

While the temptation exists to start sending random TALK requests to people you see logged in at **bigbang.berkeley.edu** just to ask them if they can get you Cliff Stoll's autograph, this is considered a fairly rude thing to do ... while some people out there may be just like you – students surfing the Net looking for things to do, people to TALK to and they might love to get a TALK request from someone they don't know in New Jersey, but other people use the Net for serious work – you might get some particle physicist really annoyed at you that he stopped compiling his million line program to answer a TALK request from some undergraduate goofball who just wants to chat about how the *Huskies* are doing. You don't make random phone calls to people in Bangor to ask them if they want to chat about Stephen King. (Read the chapter on IRC if you're really interested in TALKing to people you don't know.)

It is also entirely possible that the party you want to FINGER or TALK to (and there will be no snide remarks) won't be able to hear you – some machines just can't do it. This may change in the near future. Until very recently, there was no TALK "client" for PC based networks. As of this writing though the program has become available and ought to start appearing on more and more machines. A lot of things on the Net are incompatible – you may find the lack of standards to be the most frustrating thing about the Internet. (If all cars were exactly the same it would be very easy to get spare parts, but it would be impossible to perform certain tasks. Garbage trucks, cement mixers, limousines, and ambulances for example *need* to be different from ordinary cars and for this reason their parts are incompatible.) This is one of the reasons that for some people and some purposes at least right now, using SATURN can be better than using one of the slick PC interfaces you'll find on campus.

A WORD ABOUT PHONE

VMS provides a utility called PHONE which you can use to contact other people on SATURN. PHONE is very similar to TALK although it has the nice additional feature of "ringing" the other person rather than flashing a TALK request once (a lot of times you can't see who the TALK request was from because it has scrolled off your screen). Using TALK is better than using PHONE because TALK is more diverse (it also gives you more screen to type in). If someone *does* happen to PHONE you though, type

Internet Users Guide

phone

at the \$ prompt and then

answer

at PHONE's % prompt.

File Transfer Protocol: *FTP*

We've discussed already the fact that files and information are archived on various computers around the world (unfortunately there isn't much rhyme or reason to what is archived where, but there are ways to find things that we will discuss later). Glassboro, for example is the official archive site for digitized photographs of roller coasters (no foolin). In this chapter we will discuss how files are moved between computers.

Let's pretend for a moment that this guide was a little more useful than it actually is and that thousands of people wanted copies of it. They could send me e-mail saying "Kyle, could you please send me a copy of your SATURN guide?" The first few dozen people would no doubt get a copy of this manual with a cheery note from me, but after a while, I'd get tired of mailing out copies all day long, my mailbox would always be cluttered and the in and out traffic might flood the mail gateway and make it difficult for other people trying to use the system. There are several alternatives to this, the first and simplest would be to put the file some place where people could get it without bugging me and then leave a message on USENET telling how to get it. This happens all the time, and if you read USENET, you'll continually see messages telling people that something can be FTP'd from somewhere. FTP allows people with accounts on several computers to move their files back and forth, but there is also a provision called "anonymous FTP" which will allow certain files to be copied by anybody. After all, it wouldn't do much good for me to put this guide someplace where people needed a password to get it.

Let's say that while reading the USENET group **rowan.support** you see a message that looks like this:

from: cassidy@saturn.rowan.edu (kyle cassidy)
etc etc
subject: saturn users guide

hi all,

since so many people have been asking for the SATURN users guide, i've archived it on our local machine. you can FTP it from gboro.rowan.edu in the /pub/netguides directory, it's called 'saturn.txt'

kc

This is a more or less typical example. It might seem like Greek right now, but it's actually fairly simple. The message says that the file we're looking for 'saturn.txt' is to be found on the computer called **gboro.rowan.edu** and it is in the directory called /pub/netguides⁵. The subdirectory name /pub is fairly common, standing for *public* access. If you're anonymously FTPing, it's fairly safe to bet that the things you are looking for are somewhere in the directory structure beneath /pub. Most FTP sites try and be as user friendly as possible, thus, a Macintosh word processing program might be found in a directory called /pub/macintosh/applications/wordprocessing. Though it might seem confusing at first, it actually makes quite a bit of sense. (If you are familiar with Macintosh, just think of them as nested folders. The more you learn about computers, the more you'll realize that most computers basically do the same things in largely similar ways. Though SATURN's equivalent to a Macintosh "bomb" might be ten pages long and very ugly.)

Anyway, enough with the non-sequiturs.

To fire up FTP, you can either select it from the menu, which will give you a prompt that looks like this:

```
FTP>
```

or you can type in a command line from the \$ prompt. At the ftp> prompt, type

open name_of_the_computer_you_want_to_FTP_to

which in this case would be

open gboro.rowan.edu

and from the \$ prompt you would type this:

⁵I am going to assume that you know something about *pathnames*, the way in which computers locate files on disks. If /pub/netguides confuses you, find yourself a book on DOS and read up on that part.

ftp gboro.rowan.edu

Don't worry – it's the same program, you're just landing in it in different places.

In any event, one of two things will happen. Firstly, you'll get nothing. It's really easy for FTP to choke. If it does, just hit ctrl-c a few times and try it again. The reasons for this are nebulous at best, don't worry yourself with it. If after a few tries you still get nothing, forget it and try back later. If everything goes right, you'll get a screen that looks like this:

Internet Users Guide

220 gboro.rowan.edu FTP server (ULTRIX Version 4.1 Tue Mar 19 00:38:17 EST 1991) ready.

Connected to gboro.rowan.edu.
Name (GBORO.ROWAN.EDU:cassidy): **anonymous**

If you had an account on the machine, typing you username would let you access your files there, but since we're interested in something in the **public** directory, we can enter **anonymous**. The machine will then ask you to

331 Guest login ok, send ident as password.
Password:

type your e-mail address (you won't see your password echo on the screen, for the obvious over-the-shoulder security reasons). It is not necessary that you type your address, but it's considered polite. It's a way for places to keep a record of who's logging onto their computer (and don't try faking it smarty pants – by the time you connect to their machine, *they already know who you are*. So be nice.) The machine will tell you:

230 Guest login ok, access restrictions apply.

There are several rather useful commands which it is helpful to know when using FTP, these are:

HASH—turns the hash marks on.
DIR—returns a list of what's in the current directory.
CD—changes the current directory.
GET—gets a file from the remote site.
PUT—puts a file from your computer onto the remote computer.
QUIT—logs you off of the remote site.

You can FTP for years and never use anything other than these six

instructions. As soon as you log onto an FTP site, it's a good idea to type

hash

nothing will happen if you don't type it, but it makes things happier. When you type 'hash' the computer will respond

Hash marking ON

or something similar. What this does is print a hash mark, (#) on the screen every time one kilobyte of information is transferred. Aside from relieving the tedium of staring at a completely motionless screen, hash is nice because it gives you an idea of how quickly the file is being transferred, and more importantly, whether it is being transferred at all ... like I said, FTP isn't the most reliable program in the world.

Let's have a look around by typing

dir

the machine will show you what is in the current directory

200 PORT command successful.

150 Opening data connection for /bin/lis (150.250.1.8,2455) (0 bytes).

total 3

```
-rwxr-x--x 1 351 15 261 Jun 7 1991 .cshrc
-rwxr-x--x 1 351 15 234 Jun 7 1991 .login
-rwxr-x--x 1 351 15 182 Jun 7 1991 .profile
dr-xr-xr-x 2 0 15 512 Apr 28 1992 bin
dr-xr-xr-x 2 0 15 512 Apr 28 1992 etc
dr-xr-xr-x 3 351 15 512 Nov 23 16:00 pub
```

226 Transfer complete.

374 bytes received in 00:00:00.16 seconds

Internet Users Guide

you can see some information about each of the files in the directory. Very little of this information is useful or even interesting. One important thing is the first character of the directory line, which is either "-" or "d". "d" means directory, thus "bin", "ect" and "pub" are directories. The "-" sign signifies a file.

You will remember that the file we are looking for is in the directory /pub/netguides, so we will have to change to that directory. I usually change directories one at a time, that way if one of the directories has been removed for some reason you know immediately which one it is and can look around in the general vicinity for one that might have superseded it. So we'd type

cd pub

the computer would respond with something like

250 CWD command successful.

(CWD means "change working directory") If we were type "dir" again we could see what's available to the public

200 PORT command successful.

```
150 Opening data connection for /bin/lis (150.250.1.8,2456) (0 bytes).
total 1194
drwxr-xr-x 7 439  15  1536 Nov  9 11:47 Netguides
-rw-r--r-- 1 272  15  30720 Oct 19 1992 arch.tar
-rw-r--r-- 1 0    15 1111974 Jul 29 1992 gsc_map.tif
-rw-r--r-- 1 0    15  40098 Nov 23 15:58 panel.ps.Z
-rw-r--r-- 1 0    15  24093 Aug  2 12:08 research.ps.Z  -rw-r--r-- 1
0 15  6588 Aug  2 12:08 researc.rtf.Z
```

hmmmmm ... computer cabala. But we see the "Netguides" directory that we're looking for. We can type

cd Netguides

we should now be in the proper directory⁶. Just to make sure, we'd type

dir

to get a list of the files stored there. This might look something like this

150 Opening data connection for /bin/lis (150.250.1.8,2457) (0 bytes).

```
total 205
-rw-r--r-- 1 439  15  18785 Nov 15 14:38 00-INDEX.TXT
drwxr-xr-x 2 439  15   4096 Oct  4 15:51 Inprogress
drwxrwxrwx 2 439  15    512 Nov  9 11:49 Incoming
drwxr-xr-x 2 439  15   2048 Sep 20 11:06 Rowan
drwxr-xr-x 2 439  15   2560 Nov 15 14:39 Unix
-rw-r--r-- 1 439  15  39230 Oct 27 08:57 BigDumb.txt
-rw-r--r-- 1 439  15  28948 Nov 17 11:33 saturn.txt
-rw-r--r-- 1 439  15  28948 Nov 14 11:36 saturn.ps.txt
-rw-r--r-- 1 439  15  34935 Aug 24 11:37 Surf10.txt
-rw-r--r-- 1 439  15  33817 Aug 24 11:37 Zen10.txt
```

now, to retrieve the file saturn.txt we'd simply type

get saturn.txt⁷

and watch the hash marks sail off the screen (actually, they don't tend to move very quickly.) Of course nothing can be simple, especially where computers are involved (you want easy to use, buy a Macintosh.)

⁶To move *up* a directory, type

```
cd ..
```

just like in DOS. This will take you to the *parent directory* (if there is one) of the current directory (called the "working directory"). (Note there is a space between the "cd" and the "..".)

⁷Note: Ftp is usually *case sensitive*, which means if the file is listed as saturn.TXT, calling it "saturn.txt" won't work, it has to be "saturn.TXT".

Internet Users Guide

200 PORT command successful.

#####

150 Opening data connection for saturn.txt (150.250.1.8,2444)

226 Transfer complete.

226 Transfer complete.

727 bytes received in 00:00:00.35 seconds

You'll notice there is a file called saturn.ps.zip, which happens to be a copy of the SATURN guide in the postscript printer language. If we have access to a postscript printer, we might want to print this one out. Notice the file has the extension .zip. This extension is generated by the compression program PKZIP⁸. It's likely that many files you find will be compressed in some way (.zip, .hqx, .tar.z are some popular ones), when you have hundreds of megabytes of files stored, using compression programs is just common sense. The problem with FTP is that anything that is *not text* (which usually means does not end in the extension .txt, but not always) has to be treated differently. If we were to type

get saturn.ps.zip

we'd get a file of garbage. Files which are not text files are called "binary" files. This means that looking at them you would see a lot of meaningless characters which computers understand and normal people don't. When you want to FTP a binary, you have to tell the computer, "Hey, I'm going to get a binary file." You do this by typing

bin⁹

⁸Unfortunately, we will not be able to go into compression programs in any depth in this manual.

⁹If this seems to confuse the computer, try typing

binary

instead.

the computer will respond

type set to IMAGE

(or something like that, it might just say "type set to I"). Bin stands for **binary** and is a toggle switch, typing "ascii" will set the type back to the other mode, "text". All computer programs (other than source code) are binary files, as are picture files, .gif, .tif, .wpg, and anything that's compressed. If this isn't confusing enough, postscript files themselves are "text" – but nobody puts a .ps file on their archive site without compressing it some way, postscript files are notoriously huge, but they compress really well.

PUTting works in exactly the opposite manner, it takes a file off of your directory, and *puts* it onto the remote computer. Many FTP sites have what they call an "incoming" directory, which is usually /pub/incoming, for uploads.

Let's say that you're interested in more than one file in our /pub/netguides directory. Perhaps you're a new Internet user and you'd like to have copies of *all* the netguides. The obvious solution is to sit there and type "**get surf10.txt**", wait for that file to transfer, then type "**get zen10.txt**" until you had them all. This would work, but if you're like me, this "hurry up and wait" stuff is worse than watching grass grow. FTP provides a way of easily transferring multiple files. The commands **mput** and **mget** will **multiple put** and **multiple get** (like most other things we've seen, this sort of makes sense.) To use **mget** and **mput** you also have to use "wildcard" characters. There are several wildcard characters with different meanings, some work on some systems but not on others, to keep things simple, we'll only go over the most useful wildcard, the asterisk (*).

When using FTP and many other programs you can use the wildcard "*" to mean "any group of characters". Thusly, typing

dir I*

at the \$ prompt in VMS will give you a **directory** of all the files that begin with the letter "I".

dir li*

would give you all the files that began with "li". You'll notice that in our /pub/netguides directory, all of the files but one end in the extension .txt. The only one that *doesn't* end in .txt is a duplicate (the postscript version of the saturn.txt document). So, if we were to type

mget *.txt

FTP would begin the process of transferring all the files that end in the extension .txt. (It would prompt you first, "yes, no, or all?" which is in case you accidentally type a **multiple get** command that would tie up your machine for a long time **getting** files that you didn't want.) After the first file was transferred, the second would begin automatically. This gives you time to maunder on down the hall and get an iced tea from the soda machine. **Don't forget to set the file type to the appropriate setting before you start mgetting or mputting files!** I can't tell you how many times I've accidentally transferred a dozen binary files as text and ended up with garbage. If mget *.txt will get all the files ending in text, it is only natural that mget *.* would get *everything* in the directory. Be careful using these commands, especially where a lot of information is involved, remember, you have limited disk space on SATURN and it's considered bad form to copy multiple files during business hours (and that's business hours of the *remote* machine, not your business hours. While it's midnight here, people in Australia are hard at work and they don't need you attached to the server they're working on bogging everything down **mgetting** hundreds of *Ren and Stimpy* wave files.

A lot of times when people tell you where they got a really neat file, their memory fails them as to the exact location. They might be able to remember "It's at **nic.funet.fi**," but they might not be able to remember the exact name, or even where exactly it is. For this reason, most directories begin with a file named with some variation of 00-INDEX.TXT. Since FTP automatically alphabetizes everything (another very useful feature when looking for something), anything beginning with "00" will precede just about everything else (except things that begin with "000") and it will therefore be

the first file in the **directory** listing. It's always a good idea to **get** this file first. When it's safely in your local directory, you can shell out of FTP and look at it. To "shell" back to SATURN from an FTP session, type

!

You'll get your familiar \$ prompt. You can now execute SATURN commands. When you're done, typing

exit¹⁰

will take you back to your FTP session, which has been patiently waiting for you.¹¹ Shelling is sort of going away with the intention to come back, in effect saying to the FTP session "Hold on a minute, I'll be right back." To look at your index, type

type 00-INDEX.TXT¹²

or whatever the index name is. The **type** command will read information to the screen and let you look at it. You can press the "hold screen" button (F1) to pause. Or, you could load it into the EVE editor if you really wanted to.

When you're done with FTP, typing

quit

¹⁰You might want to read VMS help on the "spawn" and "attach" commands. These commands allow you to have multiple "jobs" running at the same time. You can think of it as open windows on your Macintosh, only not as nice looking. In this example, you would be running two "jobs", the FTP session, and then the DCL session. When you are done with the DCL session, you can also type **attach** to return to the FTP session. If you had *lots* of jobs running, you would need to specify the job name you wanted to attach to. This is not as easy as clicking on a window to make it the active window, but the idea is the same.

¹¹NOTE: Some FTP programs will kick you off after a few minutes of inactivity. (Some of them have witty flames too when they do it, like a message saying "You could have at least said goodbye!") If this happens while you're shelled away, oh well.

¹²There is a nifty "switch" you can use with the **type** command. Typing

`type saturn.txt;1 /page`

will show you the document one "page" at a time (actually one screen full), prompting you to press return to see the next "page". Switches are good things to know about.

Internet Users Guide

will end the FTP session and take you back to SATURN.

TELNET

We have already seen that when you sit down at a terminal and log onto SATURN, you are connected to a computer which is actually in a different room, or even *building*. Using TELNET it is possible to connect, the same way, to a computer in a different *state* or even *country*. TELNET allows "remote access" to computers around the world. Understanding this probably requires some modification of the way you think about things. When most people think of a "computer" they are thinking of a desktop PC, with a monitor, a CPU and a keyboard. "Computer" in the Internet sense of the word is usually more of a nondescript box sitting in a closet somewhere with a dozen or a hundred terminals connected to it. So you never really "sit down at the computer" you sit down at a terminal, the computer is somewhere *else*. When using the Internet, you can often TELNET to any machine elsewhere on the network as though it were right next to you. Perhaps an example is in order. This summer I trundled out to Berkeley to visit some friends. While I was out there, I used TELNET to connect to SATURN and read my e-mail and use the various system resources that I needed. Although I was 5,000 miles away I was able to access my account here as though I were on campus.

Now, you might be saying "This is great, but I only have the one account. I don't *need* to access a remote computer. Here is where things get good – many places have services set up that people can TELNET to much in the same way as anonymous FTP works. Many libraries have their card-catalogues "on line." Many of these are on the Internet. So for what it's worth, you can TELNET to the University of Miami and see if they happen to have a copy of Dr. Mitchell's book, *Less Than Words Can Say*. Savitz library is on-line, and you can TELNET there to see if they have the particular book that you're looking for. We'll TELNET to the Savitz library as an example.

There are two ways to start up the TELNET program and tell it what to connect to. The first (and easiest way) is to type

telnet computer.to.telnet.to

at the \$ prompt. This will promptly take you to where you want to be. The second way is to start the TELNET program by typing

telnet

at the \$ prompt. When TELNET has loaded, your prompt will look like this

```
telnet>
```

and from this prompt you can type

open computer.to.telnet.to

to access whatever computer you're looking for. You could also type

quit

to get back to SATURN's friendly \$ prompt.

As an example, we will look at a TELNET session which will connect us to the SAVITZ library. Typing

telnet heroes.rowan.edu

will initiate the session. The computer will respond with something like

```
trying 150.250.1.15  
connected to HEROES  
Escape character is '^'].
```

```
Rowan College of New Jersey Administrative VAXcluster
```

```
Welcome to OpenVMS v6.0
```

```
Username: SAVITZ
```

```
Last interactive login on Thursday, 30-DEC-1993 22:31
```

```
System Login procedure 30-DEC-1993 22:32:45.61
```

```
User Login Procedure 30-DEC-1993 22:32:46.45
```

```
This is node HULK
```

It is technobabble like this that keeps computer consultants in business. There are only really two things here of any immediate merit, the first is the notice that the "escape character" is "^]" (the carrot, ^ stands for **ctrl**, btw) and the second is the **Username** prompt. The "escape character" is what we would type to end the TELNET session and get us back to SATURN. Remember, the TELNET program itself is running on SATURN, so any keystrokes that we type are seen by TELNET first. The escape character is

usually ^], which is because it is a key combination which is hardly ever used in any other program, so there would be no legitimate need to type it somewhere else. If the escape character were something like ^Z, something that gets used a lot, people would never be able to TELNET anywhere. The **Username** prompt is important because it demonstrates how facilities will often set up "special services" you can access via TELNET. You might see a pointer in USENET that says "TELNET to **quark.ork.foo** and login as SPAM to access this way-cool service."

Internet Users Guide

Many TELNET services will include a "port address" which is an additional number after the computer's name. The "port" allows a facility to set up numerous services which can be reached through the specification of this unique address. TELNETting to port 79 on most computers will give you the equivalent of a FINGER command for example.

TELNET allows you to access many different types of services such as MUD's, Libraries, and Information databases. For example:

The PENpages, a database maintained by Penn State University. There's all sorts of interesting information here, weather, agricultural info, etc. TELNET to **psupen.psu.edu** and log in as **PNOTPA**.

Geographic Name Server, a database which contains census (1980 at last check) info on American cities. You can search by town name, by zip code and a few other ways. It'll tell you that Elmer has 971 people living in it. Way cool. TELNET to **martini.eecs.umich.edu 3000**.

Food and Drug Administration BBS. You can look over congressional testimony, AIDS info, or news on recent FDA approvals. TELNET to **fdabbs.fda.gov** and log in as **BBS**.

Ham Radio Operators. Who the heck is N2FDV? Well, you can TELNET to **callsign.cs.buffalo.edu 2000** and find out. This service gives you names, addresses, and call signs of Ham Radio operators.

This is only a skeletal example of what is out there. You can find more in various Internet guides or on USENET. The *Yanoff List of Special Connections* is kept current and posted to the USENET group **news.answers**.

EVE

In your dealings with SATURN, you will quickly come to realize that you need some way to handle text – some way in which to read text documents, and some way in which to create text documents. Of course those crafty guys who put SATURN together thought of all this, this spiffy computer comes complete with a spiffy *text editor*, which is sort of a word processor, but not as complicated.¹³ This is the same editor you had better be using for e-mail, and it's the one that you'll use for USENET posts, so it's important to pay attention.¹⁴

EVE is not an Internet utility, it is a VMS program. There are several text editors available for VAXen, EVE is the easiest to use. Lucky you. EVE can be used to write computer programs, letters, USENET posts, read instruction files, all sorts of lovely things. It is invoked simply from the \$ prompt by typing:

EVE

You will see a screen which looks something like this:

[End of file]

¹³If any of you are old enough to remember the TRS-80 model I (or II, or III, or IV) and its text editor *Scipsit*, the two are very similar.

¹⁴I mention this elsewhere in the text, but if you're like me, you never read anything that anyone gives you. To select EVE as your default MAIL editor (which is a *Good Idea*), type

Set EDT TPU

at the MAIL> prompt. It will make the world a better place.

Buffer: filename |Write|Insert|Forward

The underscore is (of course) your cursor, the [End of file] marker is the end of the file. Basically now you just *type*, and press ctrl-z to save and exit when you're done. It's about that simple. Of course, there will be things that you want to do from time to time, like centering a line for example, or saving your document or whatnot ... to perform any command, press PF4, this gives you a "command line" at the bottom of the screen, where EVE is waiting for you to tell it what to do. Let's go over an example.

We'll say that you're going to write a paper for Dr. Viedersplats using EVE and that you're going to e-mail it to him when you're done (and since the paper topic is "10 Ways to Save Trees" I'm sure he'll appreciate the e-mail), but since you expect the document to be exceptional, you want to keep a copy, and maybe revise it and send it to *Mother Jones* when you're done. We'll start at the \$ prompt. You can either type EVE at the \$ prompt and name your file later, or you can type EVE and follow it with a filename ... either one works, but since all files have to have a name, we might as well name ours when we start out. Type

EVE trees.txt

You'll get the editing screen that I've already described. You will see at the bottom, the current filename, trees.txt. The first thing we want to do is center our title. So we type the line

10 Ways To Save Trees

and then we're going to tell EVE that we want this line centered. Press PF4, which will give you a command line at the bottom of the screen. At this command line type

CENTER LINE

and press return. There you go. A centered line.

Pressing ctrl-z will save your document and end the editing session.

Now that you have the format for entering commands, you're basically set, since they're all entered the same way. (There are however two keys that you should take note of, they are very useful, these are the SELECT and REMOVE keys. Fortunately, they do basically exactly what you'd expect them to do, select text, and remove text. The select button is also very useful in cutting and pasting text (works just like in a word processor). Try moving the cursor to the beginning of your line and pressing SELECT, then move the cursor – neato, the selected text is highlighted! Now of course whatever

command you enter will affect the highlighted text (like CUT, or DELETE, or whatnot.)

If you reach an impasse and are reduced to periods of agonizing and largely unproductive umphallaskepsis, racking your brain for some command or other that you forgot, pressing PF4 and then type

HELP

will allow you to access EVE's on line help. The whole program is fairly straightforward and most people don't have much of a problem using it.

There are also *herds* of really serious things that EVE can do that go way beyond the scope of this text. EVE can probably do just about anything you want it to. I have included some more advanced commands, working with multiple documents and windows – most of these are optional. The simple commands that everyone should know, I've prefaced with a bullet (●).

(NOTE: Some of the commands deal with *buffers*. Just think of a buffer as a file or document which is in the computer's memory. When you "open" a buffer, what you're doing is taking out a sheet of (virtual) paper and looking at it. The buffer (sheet of paper) may have something written on it, it may not. You can write things on them, change them, etc.. Many of the "buffer" commands below deal with EVE's ability to have more than one document in memory at a time. These commands allow you to switch between several documents ("buffers"), or even to have two of them on the screen at the same time.)

Some useful commands follow:

- BOTTOM** Takes you to the bottom of the document.
- CENTER LINE** Centers the current line.
- COPY** Copies the selected range of text. (That would be the highlighted text.)
- CUT** Cuts the selected range of text. You can then PASTE it somewhere.

DCL `command_name` Allows you to enter a VMS command. DCL stands for Digital Command Language. The up side of this is that you can type `DCL dir *.txt` or whatever, and you'll get a listing (in a window) of all the files in your directory that end in the extension `.txt`. You can enter any VMS DCL command from this prompt. (Hoo boy.)

DELETE BUFFER Deletes a buffer. Typing this will get you a prompt asking for a buffer name to be deleted, give it a buffer name. EVE will then ask you what to do, write the file then delete it, or just delete it? or what? Type delete_only to delete the buffer without saving.

●**EXIT** In case you become wounded by sniper fire and are unable to press **ctrl** and **z** at the same time, typing this will do exactly the same thing.

●**FIND** Searches through the document for the specified text string. Staggeringly useful, especially if it's a really long text file.

GO TO marker_name Goes to a particular book mark. (Typing **GO TO STUPID** will move the cursor to the book mark called **STUPID**.)

●**INCLUDE FILE** Gets a file from your directory and plops it where the cursor is. Horrendously useful.

INSERT PAGE BREAK Inserts a "hard page break" (if you don't know what this is, then chances are you don't need it ... this is only useful too if you're printing your document out and if you're going to do that, WordPerfect beats EVE hands down.)

LOWERCASE Changes the case of selected text to lowercase.

MARK marker_name Puts a "bookmark" at the cursor, which is given the name you specify. (Therefore typing **MARK STUPID** will create bookmark called **STUPID**. This is really useful when you then use the **GO TO** command.)

NEXT BUFFER Switches to the next open document. (This is sort of like the **SHIFT-F3** command in WordPerfect.) In EVE you can have bunches of documents open at the same time, say a letter to your mom, a paper on the care and feeding of Lemurs, and notes for your Survey of American Literature class, you can move forward through these by typing **NEXT BUFFER**. Conversely, the command **PREVIOUS BUFFER** takes you to the one before it.)

ONE WINDOW Same as **TWO WINDOWS** but backwards.

●**PASTE** Just like **CUT**, but backwards.

PREVIOUS BUFFER Just like **NEXT BUFFER** but backwards.

●**QUIT** Writing an irate letter to Dr. Viedersplats and realize half way through that you still haven't gotten a grade from him? Typing this will end the editing session *without* saving what you have written.

Internet Users Guide

● **REFRESH** Sometimes the screen gets cluttered (you got a TALK request, mail, something.) Entering this command will clean it up for you. Pressing ctrl-w also works.

REPLACE string Will search through your document and do a find and replace. Say you want to replace the name Dr. Viedersplats with Dr. Smith. Type REPLACE Dr. Viedersplats and press return. EVE will prompt you for the new string, type in Dr. Smith. EVE will then ask you what ones you want to replace. You'll probably want to replace them ALL. This is really useful.

SAVE FILE AS Just like on a Macintosh. Allows you to save the file with a different file name.

● **SAVE FILE** Remember how everybody is always telling you to save your file all the time in case something is struck by lightning? This is how you do it. Entering this command will save your file *without* ending the editing session.

SELECT ALL Just like on your Macintosh – this command highlights all the text in the current buffer. Do as you will with it.

● **SELECT** I suppose this is in the event that you spill a soda on your SELECT button and it ceases to function properly.

SET LEFT MARGIN Does what you would expect. Default is 1. (Again this is mostly useful if you intend to print directly from EVE.)

SET RIGHT MARGIN Same thing, but backwards. (Default is 79)

SET TABS AT Type the numbers for tabs, separate them by spaces. Kind of a useful thing to have. (I set mine at 5, 10, 20, 30, 40, 50, 60, and 70)

● **TOP** Takes you to the top of the document. (You were expecting something else maybe?)

TWO WINDOWS This splits the screen in two halves so that you can edit two documents at once (hey neato). Switch between the windows by entering the OTHER BUFFER command.

UPPERCASE Same as LOWERCASE but backwards.

WHAT LINE Tells you what line you're currently on. Helpful if your document has to be of a certain length.

PRINTING A FILE

What's the use of having a word processor if you can't print? Well you can print. From the friendly \$ prompt, you can type

print *filename*

and the line printer in room 311 will start spitting out your file. If you're anywhere else on campus, too bad, it'll *still* print out on the line printer in room 311. If you need to print to a different printer it can be done (there are lots of ways all of which are esoteric), ask someone who looks like they know what they're doing.

IRC

IRC, or Internet Relay Chat has become something of the bane of the Internet. It is a high use, low return program with dubious benefits. Why mention it then? Because for some reason, IRC tends to be very popular. IRC is sort of like an Internet version of CB radio with unlimited channels. The up side of IRC is that it allows people from all over the world to meet other people from all over the world and gives them the opportunity to talk about anything. There is an irrefutable charm in that. The down side of IRC is that the worthwhile exchange of information rarely occurs. The average mind set that you are likely to find on IRC is that of a 7th-8th grade lunchroom with no chaperons. Sexual innuendo abounds, and is rarely subtle. Witlessness abounds as well in an equally overt manner. *Oh well.* In it's conception, IRC is a wonderful idea and well implemented. The educational possibilities of IRC are astounding, but it tends to fall short on the user end. It is sort of like giving a Ferrarri to a group of chimpanzees: They'll pull off the windshield wipers and squat inside it when it rains, but not much else. Rather than go into detail about how to use IRC, I'm going to include a brief transcript of an IRC session and then mention a few of the basic commands and let interested parties figure out the rest by themselves.

In order for IRC to function, two things are necessary, a *client* and a *server*. Clients are software which connect to servers (which are both hardware and software). When you boot up (that is "run") the client program, you have to tell it where it's connecting and what to do with you when you get there. (The nearest IRC server is **hertz.njit.edu** at the New Jersey Institute of Technology. This is the one we will be using.) The client will also want to know your "nickname," the name you will be using on Internet Relay Chat. In this example, I use my first name. Alright campers, from the \$ prompt....

```
$ irc kyle hertz.njit.edu 6667
```

Internet Relay Chat - VMS Client 1.7.5

=====

Use DEFINE IRCNAME "Your real name" to predefine this...

Personal name? [Kyle Cassidy]

[ENTER]

```
*** Local VMS IRC Client version 1.7.5
*****
*** This Client was last modified Dec 1 1993 20:20:59
*** Welcome to the Internet Relay Network kyle
*** Your host is hertz.njit.edu, running version 2.8.16
*** Your host is hertz.njit.edu, running version 2.8.16
*** This server was created Nov 11 1993 at 18:43:43 EST
*** Your host is hertz.njit.edu, running version 2.8.16
*** There are 1776 users and 694 invisible on 132 servers
*** There are 88 operator(s) online
*** There have been 831 channels formed
*** I have 19 clients and 1 servers
*** Motd: - hertz.njit.edu Message of the Day -
*** - |||
*** - N.J.I.T
*** - New Jersey Institute of Technology
*** - Computer Services Department
*** -
*** - Student run, institute supported irc server
*** - Thanks for using NJIT's own irc server.
*** -
*** - Hertz users: Sharing accounts is now in direct
*** - violation of the regulations imposed by CSD
*** - Unix System administration. Anyone found sharing
*** - an account will be immediately reported to the
*** - CSD for disciplinary action. Please do not risk
*** - IRC at NJIT by doing this.
*** -
*** - Type /help NJITrules for more information.
*** - |||
*** End of /MOTD command.
*****
```

/list [This is a command to get a listing of available channels.]

#cyrano:	1	
#Toofarie	4	The Toof is IN
#Mertz	1	
#england	17	well i don't like gerbils that like ferrets liking gerbils
#sabah	2	
#chinese	24	
#medan	10	
#Sutomo	3	Welcome to #sumoto
#taiwan	36	Cuz I've fallen In love with you... Again...
#taipei	10	telnet 140.120.1.4 login: bbs
#taichung	2	
#internex	6	
#p/g	5	panacea-passion pure! i can't Resist your Gentle lure!
#inudo	31	Final & dooms Rules :P
#fillipino	20	machaco i love you -tik
#talk	24	invasion repulsed!

[There are actually a *lot* more channels than this. The number after the channel name is the number of people on that channel. The label after that is the "topic" of discussion on that channel. Be warned: The topic rarely corresponds with anything you will find within....]

/join #england

*** change: kyle has joined this Channel (#england)
*** Topic on channel #england is well i don't like gerbils that like ferrets liking gerbils

#englan* kyle @Steve2 @RickMears VIEQUES @tigs @Bud-D stimp
@Joop @BEEKeR @othernick @Bsexy @Ferret @VIGllant Jay
@TEXWOLF @christina @Polona @cypher

[These are the nicknames of everyone on the channel.]

(Ferret) bye tex
(BEEKeR) me hops around saying happy christmas and a merry new ywar!!!
*** Action: christina ain't leaving yet
(christina) heheeh
(Stimpy) kyle hello?
(tigs) happy hannukah
(TEXWOLF) And if i do not see you before then Merry Christmas and happy new ywar.
(christina) I have a final tomorrow.
(christina) french final
*** Ferret changed the topic on channel #england to wrong topic
(VIEQUES) I am fro Puerto Riico so I have no one here was racist agains Puertorricans
(Bud_D) how are you?
*** Action: christina needs to go
*** Action: christina waves to all
(christina) bye bye bye bye

/quit Leaving
\$

This is a fairly adequate representation of what IRC is like. You can see that whatever anyone types is printed and prefaced by their nickname, commands are prefaced by a slash (/). If you want to experiment with it, below are a very few IRC commands. The remainder of them you can find out easily enough on IRC itself.

/help This is, of course the on line help.

/list This command will list the channel names and subjects.

/join Joins a particular channel. The channel name must be preceded by a pound symbol (#). You can be on more than one channel at a time, but it's very confusing.

/part Leaves a particular channel. Channel name must be preceded by a pound symbol (#).

/quit Quits IRC.

/who By itself, /who will give you the names and e-mail

addresses of everyone on IRC (and this takes forever). Used more accurately, it can be useful. /who nick_name will give you the name and address of whoever is using that nickname. /who site_name will give you a list of people logged in from a particular site. Thus /who grod will tell you the name and e-mail address of the person logged into IRC under the nickname "grod" and /who saturn.rowan.edu will give you a list of everyone who is on IRC from SATURN.

SATURN

/nick Changes your nickname. Typing /nick george would change my nickname to george.

Things That Your Mother Should Have Taught You About the VMS Operating System

Raising a child is a difficult thing to do, what with diapers and formula, preschool, little league and proms. I'm going to assume that your mother forgot to tell you some things about VMS that she ought to have. Be forewarned, this is only the briefest of outlines. The actual manuals for VMS come on a forklift (no foolin) and are known by the sobriquet "The Big Grey Wall", because they're grey and take up an entire wall (the skeleton set takes up 15 shelf feet.) Bruce Klein has a set of them in his office if you feel like staring in awe at them.

HELP

Keep this one in mind. VMS has on-line help including examples which can save you a lot of time and blundering about. **HELP** is simple to use. So simple in fact, that I don't need to tell you anymore about it.

THE WAY VMS NAMES FILES

Filenames in VMS make strange sense. The format looks like this:

filename.extension;version_number

where the "version number" is a number which gives you information on the files revision status. Say you were writing a report on the history of the paper clip. You might have several versions of the report, one that is 10,000 words long, one that you've trimmed down to 5,000 words, and one with a different conclusion that you're not sure you like. VMS will let you name these files:

```
paper.clip;1  
paper.clip;2  
paper.clip;3
```

I happen to have a myriad of project.txt files, with witty little quips in them

that I change from time to time in order to keep people who are FINGERing me from getting bored. They are saved as

```
project.txt;1  
project.txt;2
```

etc. Which is actually convenient and makes sense. (In DOS you would probably name them "project.one," "project.two," "project.thr," etc.)

In naming a file under VMS you can use 39 characters for the file name and 39 characters for the extension name. The extension name must be preceded with a period. The characters can be from a-z, upper or lower case, the numbers from 0-9, and the underscore, hyphen, or the dollar sign character. So, a legal file name could be:

```
this_is_my_file.it-is-number-9;9
```

WILDCARDS IN FILES

Wildcards in VMS work just like they do in DOS. The most useful one is the asterisk (*) which means "anything." The command

```
dir l*.*;3
```

will give you a **directory** of all the files that begin with the letter "L" and have a version number of "3." The percent symbol (%) is a wildcard standing for "any single character" therefore

```
dir %ina.txt;1
```

will display the file nina.txt;1 but not the file cognomina.txt;1.

DELETE

Works just like you'd expect it to. You've got to include the version number, even if it's the only file with that name. Example:

```
delete this.file;1
```

PURGE

The **purge** command will delete all the files in your directory with multiple version numbers saving only the last two.

RENAME

This command will do just what you'd expect, give an old file a new name.

rename old.file;1 new.file;1

will rename the file old.file;1 to new.file;1. This is useful if you want to keep a bunch of witty text files around and use them as project.txt files, you can RENAME the one you want to use.

SEEING WHO'S ON

The command

show users

will clue you in as to who's using SATURN at the same time you are.

SPAWN This is an astoundingly useful process which allows you to suspend one thing you're doing in VMS and start something else. The most useful example is when you're using NEWS, which takes so long to boot, and you get a TALK request. Instead of quitting from news, you can type

spawn

at the NEWS> prompt. This will give you a \$ prompt, you can answer your TALK request etc. When you are done type

continue

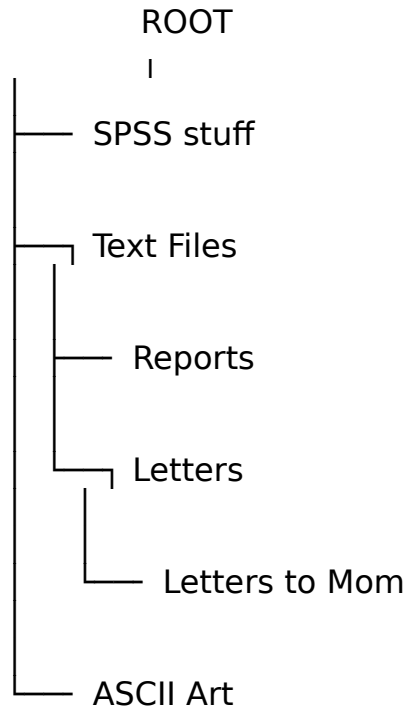
to take you back to NEWS. (Or you can simply log out from that session, you'll return to news.) You can also type things like

spawn mail

which would take you directly to the MAIL> prompt.

DIRECTORIES IN VMS

SATURN, like all good computers, allows you to create directories, which makes things easier to find. For example we'll look at the directory tree of an arbitrary account:



This account has three *directories* in it, "SPSS stuff," "Text Files," and "ASCII ART." One of these directories "Text Files" has two subdirectories, "Reports" and "Letters." The subdirectory "Letters" has a subdirectory itself, "Letters to Mom." Therefore, if you knew that you had written mom a letter and you had it somewhere, `text_files.letters.letters_to_mom` would be a good place to start looking for it, conversely, your report on Wisconsin Cheese production facilities might be found in `text_files.reports`. The proper use of directories allows you to pigeonhole things and keep them organized. In DOS, which I am going to assume you have some familiarity with, there are two main directory related commands, these are

md "Make Directory"

cd "Change Directory"

also, it is fairly easy to make DOS show you what directory you are in. VMS is not nearly as nice to you. By the end of this chapter you will be praying for the simplicities of DOS. Sorry, but that's the way it is. (In fact, I've a feeling that DIGITAL probably fires engineers if they do something in a reasonable fashion.) If you want VMS to show you what directory you are in, you type

show default

at the \$ prompt (no kidding.) SATURN will respond with the directory path.

I'll briefly go over the VMS equivalents to the DOS commands **md** and **cd**.

CREATING A DIRECTORY

To create a directory use the command

create/directory [directory.name]

at the \$ prompt. If you are creating a subdirectory off of your **root** directory you don't need the whole directory path name

create/directory [.name]

will work in that case.

CHANGING A DIRECTORY

You change a directory with the command:

set default [.directory_name]

Makes a whole lot of sense doesn't it? To move "up" in the directory structure, you type

```
set default [-]
```

COPYING FILES

Works just like in DOS. Typing

copy [-.stuff]*.*

will copy everything from the directory [-.stuff] to the current directory.

How To Call SATURN From Home

All this Internet stuff is great, but you don't feel like huddling in the back of 311 all day long hunched over a terminal? You'd rather be home hunched over a terminal where at least you can listen to your *Bauhaus* albums if you feel like it right? Well, if you have a modem, and terminal emulation software (QVT works nicely for both Macintosh and IBM) or better yet, a genuine terminal, you can call in and do Internet stuff from home. Set your modem up for 8 bits, 1 stop, no parity and dial 863-5959. You can connect at speeds up to the blistering rate of 2400 baud. After you connect to the server you'll be prompted

```
username>
```

this is basically a hoax – you can type anything here, as long as it is at least one character long. After this, you will be rewarded with a

```
local>
```

prompt. Type

```
c saturn
```

which stands for "connect saturn." You'll know what to do from there. Sometimes, for reasons unknown to anyone, you will be unable to connect. The modems may connect but you will not receive data, or you may receive a bundle of garbage. The only thing to do is hangup, wait a few minutes and try again. My experience has been that this problem will correct itself if left alone.

Be forewarned that in calling in via modem, unless you are using a genuine *terminal*, you might not be able to do some of the things you're used to. Terminal emulators range from awful to egregious.

If you use QVT the "-" key on the *keypad* replaces the PF4 key. (Remember that, it's important for using things like EVE.) There's also a version of QVT for the Macintosh that has pull down function keys.

When you are done using SATURN, log out in the normal fashion and also log out from the local> prompt in the same way.

ARCHIE: Finding What's Out There

WHAT IS ARCHIE?

FTP opens up worlds of information. If you've spent any time peering through the lists of downloadable software you know just how much is out there. Whatever you want, chances are you can FTP it from somewhere. Unfortunately in a world this big you can't always rely on things being interesting to find. If you have a problem with your terminal emulator you might call Academic Computing for help....

"Hello, Academic Computing."

"Hi, I'm having problems with my terminal emulator. The *menu* hangs whenever I try and load it."

"Oh yes, that's a common problem. You really ought to be using QVT. Get yourself a copy of that. It will solve all your problems." "Oh. Great. Where do I get it?"

"Oh, you can just FTP it from somewhere."

"Where?"

"Oh, anywhere. Thanks for calling. Bye."

While the folks at A.C. are actually much nicer than this it's a good example because on USENET you're bound to see people say things like "I found a great graphics utility called **qpeg.exe** it rules! It's available by anonymous FTP from somewhere. I forget where."

FTP is incomprehensibly *huge*, uncounted gigabytes of information are available through it. Many FTP sites have a table of contents of sorts, in the way of 00-index.txt files but what FTP really needs is a bona fide global index, one that allows you to say "where is this **qpeg.exe** that I've heard so much about?" Well, lucky for all of us, some people at McGill University in Canada were more irked by this than you and I and they actually invented one.

ARCHIE is a really easy to use service that will find files for you and tell you where to get them. This is so amazingly useful that after you try it out you'll probably want to send the people at McGill who invented it a Wisconsin cheese sampler from Hickory Farms or something.

HOW TO USE ARCHIE

ARCHIE is one of those things that you telnet to. There are a bunch of Archie servers now, any one of them will do, though it's usually considered nicest to call the one closest to you.

archie.ans.net	New York
archie.au	Australia
archie.doc.ic.ac.uk	England
archie.funet.fi	Finland
archie.mcgill.ca	Canada
archie.rutgers.edu	New Jersey
archie.sura.net	Maryland
archie.unl.edu	Nebraska

My experience has been though that **archie.rutgers.edu**, while the closest, is also the slowest. I've gotten excellent results with **archie.funet.fi** which is in Finland.

telnet archie.funet.fi

Trying...128.214.6.102

Connected to ARCHIE.FUNET.FI.

Escape character is '^['.

SunOS UNIX (archie.funet.fi)

login:

at this prompt, type

archie

This is one of those examples where people will say "Telnet to **archie.rutgers.edu** and login as archie." You'll see a startup message and a prompt

Bunyip Information Systems, 1993

```
# Unable to open terminal description file.  
# `erase' character is `^?'.  
# `search' (type string) has the value `sub'.  
archie>
```

if you want, you can type help to get a help file.

help

which will give you

These are the commands you can use in help:

.	go up one level in the hierarchy
? level	display a list of valid subtopics at the current level
done, ^D, ^C	quit from help entirely
<string>	help on a topic or subtopic Eg.
"help show" command	will give you the help screen for the "show" command
"help set search"	Will give you the help information for the "search" variable.
"manpage" manual page.	will give you a complete copy of the archie manual page.

```
help>
```

press [return] all by itself to get out of help and get back to the

```
archie>
```

prompt. The command "prog" means "find the program called" so if we were looking for qvt.exe, we would type

prog qpeg

"But wait!" you are no doubt protesting, "We're looking for **qpeg.exe**, not qvt!" And the answer to that is that the program, wherever it is archived, is

probably not called **qpeg.exe**, it's probably called **qpeg13.zip** or something like that. Unless you specifically tell ARCHIE to ignore everything that doesn't exactly match your request, it will return partial matches, which is heinously useful if you're not completely sure of the name. Our search will result as follows:

Internet Users Guide

Search type: sub.

Your queue position: 1

Estimated time for completion: 00:18
working...

Host ftp.uni-passau.de (132.231.1.10)

Last updated 21:39 11 Feb 1994

Location: /mount/common.lib.archive2/ibmpc/msdos/pictools

FILE -rw-r--r-- 302288 bytes 09:44 30 Nov 1993
qpeg11c.exe

Host ftp.tu-clausthal.de (139.174.2.10)

Last updated 11:15 11 Feb 1994

Location: /pub/msdos/Newitems/qpeg12e.exe -> ../graphics

FILE -rwxrwxrwx 23 bytes
22:48 9 Dec 1993 qpeg12e.exe

Location: /pub/msdos/Newitems/qpeg12e.txt -> ../graphics

FILE -rwxr
wxrwx 23 bytes 22:48 9 Dec 1993 qpeg12e.txt

although ARCHIE actually will find about 20 more copies of the various incarnations of **qpeg** than that.

ARCHIE VIA E-MAIL

One really nice thing about ARCHIE is that it will accept e-mail requests. This can save you a lot of trouble because you can mail off your request to ARCHIE and then go to the Stupid Center and grab a bite to eat and when you get back they'll be e-mail from ARCHIE telling you where you can find your stuff. You also actually *posess* the list then, instead of having to bang on the *hold screen* button all the time to try and stop the assault of text scrolling by so fast that you have no hope of reading it.

SATURN

Send email to **archie@archie.mcgill.ca** with the word **help** in the body of the message (not to be confused with the subject line of the message, which should say "bring me a lemur!" (Just kidding. You can leave the subject blank.)) A few minutes later you'll get mail back from ARCHIE with all sorts of help in it.

Getting Files To Your Home Computer

"How do I get files to my home computer from the Internet?

Ah! what a brilliant question. Why did it take me so long to getting around to answering it? Obviously free software from the Internet is absolutely useless to you if you can't get it off the VAX and onto your home or office computer. Look as you might, you will find not legitimate place to stick a floppy disk on your VT-220 (though with some coercion you might manage to ram it through the vent on the top but that won't do anyone any good and you'll never be able to get it back out). It becomes evident now that to transfer a program from SATURN to a floppy disk that we need *something* in between the program and the floppy disk that has a disk drive. Whatever this something is, it must be connected by wire to SATURN. There are two ways of doing this, the first way is to find a PC that is on the network (any network as long as it's connected to the Internet – so it could be a machine at **clam.rutgers.edu** or it could be a PC in 325 on the MARS local area network.) or it could be a computer connected to the VAX via a modem.

In the first instance, using a PC on a network, you already have all the information you need to get your file to a disk but you might not have figured it out (sort of like Dorothy and the Ruby Slippers). Let's say that you found the latest version of *Doom*, DOOM12.ZIP, on **wuarchive.wustl.edu**, you've FTP'd it to SATURN and you want to get this on your home computer. If you have access to a networked PC, say one in Robinson 325, you can simply FTP it again from SATURN to the PC that you're sitting at. Simple.

In the case of a modem connection, you can run a program called KERMIT (yes, it's named after the frog) which is made for sending files across phone lines. We'll say that you're using QVT as your terminal emulator, because you probably should be (unless you've found something better in which case please tell us). From the friendly \$ prompt, type

```
run kermit
```

the computer will respond with a prompt that looks like this

```
kermit-32>
```

from here type

```
send doom12.zip
```

nothing will change. SATURN is waiting for QVT to tell it to start sending the file. In QVT, press alt-f to get the file menu, select "download". QVT will then ask you where to put the file, give it a directory. QVT will also want to know if the file is text or binary, since this is a .zip file, it would be binary. After your machine is ready, it will tell SATURN to start sending the file. Go take a shower or make some pancakes or visit your grandmother in Deluth because downloading *Doom* at 2400 baud is going to take a while. When the file is done transferring, QVT ought to beep to let you know. Type

quit

to exit KERMIT. You'll get your familiar prompt back.

QVT is available for all sorts of platforms, DOS, WINDOWS, NT, OS/2, Macintosh. Whatever you've got there's probably a version of QVT for you.

Conclusion:

Where do I go from here?

Now that you have an idea of how to use some assorted Internet tools, you'll no doubt begin to hear about all sorts of other wonderful things that you can do. USENET and electronic mail should help you find just about any information you're looking for.

It was my original intention to make this book fairly comprehensive, with chapters on WWW, the World Wide Web, GOPHER, WAIS and various other net resources. The "truth of the matter" is that during the writing of this manual, SATURN has fallen into disfavor and is being, in essence, put out to pasture. Most accounts will be farmed out to Academic Computing's new server, MARS, which is a 486DX/66 running NOVELL. This is a much slicker interface, with menus and windows and what not, but it lacks some of the nostalgic charm of SATURN. This is both good and bad. On the one hand, I am distressed that this project wasn't able to come to the fruition which I had planned for it (it's also unfortunate to see your work becoming obsolete even before it hits paper), and on the other hand MARS is considerably more powerful than SATURN and is able to handle much more advanced software and do it more quickly (there are reasons for this which are kind of obvious when you point them out, but since they're largely irrelevant, I'll not bother now.) MARS represents the future – the simple accessibility of the Internet. Things that may have been difficult with SATURN are rudimentary on MARS. For this reason, it's not much fun writing a user's manual. SATURN was for me, a sort of tinker toy – a vast, unknowable island, with puzzles and wonders around every corner. Those of you who are using SATURN by choice are most likely using it for similar reasons and hopefully this guide has given you enough knowledge that you can figure out whatever else you want to know.

If the Internet is to be effective and successful, it must go the way of MARS – it must become so easy to use that no one is daunted by it. As a clock face covers up the complex machinery of the chronometer and allows anyone to tell time, so must our interfaces to world-wide networks be. As it becomes easier to use the Net, more people will use it and it will become more powerful.

The MARS Internet manual should be considered the logical extension of this manual. The glossary in that manual (for example) will be more comprehensive than the one found here. That manual will also go into more

depth concerning the physical being of the Internet and the services available on it.

In the meantime, you might want to pick up Ed Krol's wonderful book *The Whole Internet*, it's chock full 'o wonderful things to do, places to go, files to get. There is also a Brendan P. Keyhoe's book *Zen and the Art of Internet* which is available electronically on the Net itself. Eric Raymond's hilarious book *The New Hacker's Dictionary* is also available on line as the infamous "Jargon File;" check **alt.computer.folklore** for it's current whereabouts. Be careful about buying "Internet" books in a book store – many of them are just printed versions of books which were written "on the Net" and are available "on the Net." The "list of lists" for example, which is a listing of publicly accessible mailing lists, can be found in the USENET group **news.lists**. You shouldn't pay \$25 for anything that you can download for free.

Still, keep your eyes out for updates and appendiums to this manual (there are bound to be a few – there were three revisions due to software changes in the week between 10.17.1993 and 10.24.1993). There are also several places you can go for help if you are having difficulty: There is a USENET group called **rowan.support**. Questions posted to that group will be answered by somebody (or more likely, many somebodies.) Updates of this manual will most likely be posted to the group **rowan.announce**. You can also send electronic mail to the address **support@gboro** (nothing else is necessary in the **To:** field); thirdly, you can send me e-mail and I will do my best to answer your questions.

Appendix A:

How to Type Like a Cyberdweeb

In your trek across cyberspace, you will no doubt find yourself talking "real time" at people via your keyboard on some if not many occasions. Internet utilities such as IRC, TALK, MUD's, MUSE's, etc. all put people in a position where such communication is possible if not necessary. This sort of thing has been going on for years and years. Over these years, a sort of "language" has developed, much akin to CB radio talk, where a "smokey" is a police officer and a "rubber duck" is ... er, well, I'm sure a "rubber duck" must mean something to a CBer.... Lots of people type entirely in lowercase, don't be distraught, and *don't* pick on their grammar or spelling ... this is considered really rude on the Net where proper punctuation and its ilk are routinely thrown to the wind in favor of typing as fast as humanly possible. We are living in a society where until a very few years ago it wasn't fashionable for anyone but secretaries to be able to type. The world is filled with older people, men mostly, who never learned how and for whom the "ten fingered interface" is alienating and intimidating. For some people, using the Internet requires a heroic effort – be gentle. If that weren't enough, you will find in the course of your travels that often times you are talking with people for whom English is not their first language - until you speak more languages than they do, it's probably a good idea to keep your snide spelling lessons to yourself. IT IS ALSO CONSIDERED IMPOLITE TO TYPE IN ALL CAPS – PEOPLE WILL THINK YOU ARE SHOUTING AT THEM.

Anyway, this is in no way a comprehensive list of the cabalistic garbage that you will see typed at you from time to time, but it is a start and these are (as far as I know) the most popular ones.

* The use of asterisks usually suggests action, so typing *laugh* would mean "I am laughing."

ack "Yeah." Ack stands for "acknowledge." If you send someone e-mail that says "enq?" and they receive it while they are on line, they may respond with "ack," meaning "yeah, I'm here, I'm on line. What do you want?"

brb Technogeek for "Be Right Back." This notifies people that the typer is leaving his or her keyboard to attend to some business, answer the phone, go to the lavatory, order a pizza, etc. and have the intention of returning to

the keyboard momentarily.

btw "By the way." As in "btw, I'm getting married next May."

bye? "Are you ready to end this session?" It is never polite to just "hang up" on someone, i.e. leave without telling them that you are going. Typing "bye?" is polite. It is also polite (and I'm not kidding) to type "wave" before you disconnect. This comes from MUD's where typing "wave" would return the line "soandso waves."

Internet Users Guide

enq? "Enquiry." This means are you busy? You may get e-mail from people saying "enq?" and nothing else. The proper response is "ack" or "nak."

[enter] [enter] when you are done "speaking" (typing real time) a double carriage return lets the other user know that you're finished and that it's okay for them to type. This isn't necessary on things like TALK where the screen is divided. It stems from the days when everyone typed on the same screen at the same time. It still makes things clearer though.

foaf "Friend of a friend." From **alt.urban.legends** (although coined elsewhere, it sees considerable usage there and elsewhere on the Net, so I include it.) FOAF stories are rarely (if ever) true, though often amusing. Read the **alt.urban.legends** FAQ and be amazed at how many of the FOAF stories you have heard and even thought true yourself.

foo? "Sorry I butted in." Used if you send a TALK request to someone without there expecting it. If they're busy the response is "sorry I'm busy" or "nak." If they are not busy they might respond "ack" or "what?" The origin of the word "foo" is certainly from "foobar." The origin of "foobar" is heatedly debated. Suffice to say that "foobar" basically means "anyword." It is a word that computer users sling into places where many words would fit, such as "Oh, I can't remember his name, Bob Foobar or something like that." Or "Yeah, he vanished, got a job with Foobar Enterprises and we haven't seen him since."

fya "for your amusement." See "fyi."

fyi "for your information." Example, "fyi, the budget has been increased to \$22,000 as of last month."

ga "go ahead" for when two people are trying to type at the same time.

hhok "ha ha only kidding"

IMHO Technogeek for "In My Humble Opinion." This is a disclaimer for opinions, such as "Macintoshes are far superior to IBM's, IMHO."

jam "just a minute" Similar to "phone" and "sec."

l8r "later" a way of saying goodbye.

morf? "Male Or Female?" When TALKing to someone, or IRCing, or MUDding, you know nothing about the other person (or persons) except their name (or in many cases, pseudonym). "morf?" is therefore a frequent question.

nak "I'm busy." If you send someone e-mail that says "enq?" and they answer "nak" it means that although they are on line, they are busy and you should try them later.

o "Over." This means, I'm done talking. Your turn. Similar to **[enter]** **[enter]**.

oo "Over and out." The same as "goodbye."

obtw "Oh, by the way." A logical extension of **btw**.

oic "Oh, I see." Example: "Oic! I didn't realize that Marge and Lou were friends."

rehi "hello again." Basically anything can, and will be "re'd" you can "resmack" someone or "release", or "reget."

rl "Real Life." As opposed to computer life, or **vr**.

rotf "Rolling On The Floor" as in laughing. If you tell someone a funny story, they might type this to let you know how funny they think it is.

rtfm Technogeek for "Read the &^%\$#@! Manual." Posting a message to **comp.sys.ibm.pc** which says "what's the qualifier which will print my directory wide rather than long?" might get you a few "rtfm!" flames in reply. It means basically that you are probably wasting peoples time in asking for the answer to this question which is readily available to anyone who cares to spend 2 minutes at the index of a book.

sec "Wait a second", sometimes "phone", meaning "hold on, the phone is ringing."

tnx "Thanks." As in "Tnx for the info."

Internet Users Guide

ttfn "Ta Ta For Now" As in, "I'll be seeing you."

vr "Virtual Reality." One's life on line, as opposed to one's physical life. Your "net pals" are **vr** friends.

wrt "With Respect To"

Yoyodyne Mythical corporation which springs up from time to time on the Net. As in "Oh yeah, Telnet Bob moved to Oregon or some place. He got a job with, um, I dunno, Yoyodyne." In his book *The Whole Internet* Ed Krol uses the address johnbigboote@yoyodyne.com. I am indebted to dries@gboro, who informs me that this comes from the film *Buckaroo Banzi*. Apparently John Bigboote was the head alien.

Appendix B: Computer Terms That Your Mother Should Have Taught You

Like many technical pursuits, computers have generated something of their own language. Because of the intricacy of computers the language which has been developed around them is more substantial than that which has sprung up around, say, *canoeing*. Below is a very slight list of words which frequently pop from peoples mouths or keyboards. You will hear them in conversation and see them on USENET.

backbone the high speed "main line" off of which computers are connected in a local-area-network. Example "Grepping across the *backbone* really sucks up resources, you shouldn't do it during peak usage hours."

big red switch The power switch on a computer or peripheral. When computers lock up or being to do something which there seems to be no other way to stop, "power cycling" or, more literally, "turning it off" may be the only way to regain control of the machine. Be careful in turning off a *terminal* which is not really a *computer*. While this may seem to fix things, chances are it will leave other **jobs** running that must be stopped. Also **120 reset** (from 120 volts.)

cli Command Line Interface. An operating system which a user interacts with by *typing* commands rather than moving a mouse or honking a series of horns of different pitches. VMS is a command line interface, as is DOS, CP/M and many OS's. See **gui**.

crlf Carriage Return Line Feed. Pressing the **[enter]** key does two things, represented by two separate characters, the first character, the CR brings the cursor back to the first column of the screen, the other character, the LF moves the cursor down a line. If you see someone complaining "That stupid terminal emulator doesn't even know how to make a proper **crlf**!" You'll know it has something to do with the way the **[return]** codes are being interpreted.

cyberpunk A digital warrior, internet surfer etc. The cool computer geek of

the 90's. This is science fiction spinoff, the term was coined by SF writer Bruce Bethke when talking about William Gibson's novel *Neuromancer*. Things "cyberpunk" are *Max Headroom* and *Blade Runner*.

DCL Stands for DIGITAL Command Language. It is a set of instructions by way of which the user can tell VMS to perform certain functions. There are over 200 commands and functions in DCL, only a handful of which are understandable by human beings.

/dev/null Stands for device / null, essentially meaning "nowhere." This is UNIX jargon which has found its way onto the Net because most people who are using the net are doing so through UNIX. Often you will see people post "followups to **alt.swedish.chief.bork.bork.bork**, flames to /dev/null" meaning, "route your wicked comments into the cold vacuum of space, little toad of a man!"

Doom A game made by ID software, the people who made Castle Wolfenstein 3D. Everybody on the Internet seems to be talking about it, playing it or writing applications that make it run better. Sorry folks, it won't run on a VAX.

flame The practice of sending incendiary e-mail to someone you disagree with, or posting same. The equivalent of shouting at someone. Posting "I love to kill cows and eat them!" to **rec.foods.vegetarian** is liable to get you **flamed**. You will see talk of "asbestos suits" when **flameage** is imminent. Beware of **flame-baiters**, people who will post absurd things just to get people to flame them (I speak the truth.) Some people have nothing better to do with their lives.

followups Someone may post a message to several newsgroups looking for information on a particular topic, but not want to clutter those groups with discussion, or have to go searching for the answer. Thusly, a thread on **rec.motorcycles** concerning what happens to an elevator in free fall might incite someone to post a message to **sci.physics** and **sci.engineering.elevators** asking a question and directing the "followups" back to **rec.motorcycles** where people are really interested.

foo The term has both no meaning and much meaning, to take the Taoist approach. There is no agreed upon definition for the word, but it is used for everything, especially in conjunction with the word *bar*, which has a similar null-meaning. A computer geek will say "Foo!" when he drops a rock on his foot and he will say "John Q. Foobar" or "Foo Inc" to mean anyone or any company. Basically, *foo* or *foobar* may be thought of as a variable name for

anyword. It is common to see names like linda@foo.bar.com as examples in manuals.

galactic trader This is a difficult though way-cool game that can be found on SATURN's BBS (type **BBS** from the \$ prompt.) It's multi player, which means that you can play with a bunch of other people at the same time. I've not figured out all the rules but I'm always looking for people to play with :-)

Internet Users Guide

gateway A computer which acts as a connection (or, "gateway") between networks. The purpose of a gateway is to decide where to route information, both incoming and outgoing. "Gateways" will often handle e-mail. GBORO is Rowan's "gateway" to the Internet. In the Bunce building the computer called "CHARON" is the "gateway" between the ELAN computer and the rest of the campus.

grep A UNIX command used to search through text documents. You'll frequently hear people on the Net saying "I had to locate 150 Shakespeare quotes for my take home final. I FTPd the complete works from **world.std.com** and I grepped the quotes out in about 30 seconds." VMS has a similar feature called SEARCH.

gui Graphic User Interface. A program (usually an operating system) where commands are entered by manipulating a series of graphical objects on a screen, usually with a mouse or trackball. The Macintosh OS is a *gui*, as is Windows, and OS/2. Compare with **cli**.

header That portion of an e-mail message or a USENET post which contains the **To:** and **From:** information as well as the routing information, etc.

hork core In UNIX, an error which baffles the computer can cause a *core dump*. These result in screeds of numbers (the contents of memory) being dumped to either a file or the screen. You can say that a person got sick and "horked core" (vomited) or that your process somehow caused SATURN to "hork core" on you. The actual VMS term is "Register Dump". ("Horked registers" just doesn't sound right.)

job a process which is running on a computer. The command **show users /full** will list the jobs that a VAX is running.

LAN "Local Area Network" a group of computers connected to one another within a small area, usually one building.

120 reset see **big red switch**.

os Short for "Operating System." The os is what's between you and the computer itself, the integrated circuit. It interprets your keyboard commands and causes the microprocessor to function in a certain way. VMS is the

operating system which is running on SATURN. Other os's are UNIX, DOS, and the MACINTOSH OS. (Non sequitur: Microsoft Windows is *not* an operating system, although it pretends to be. Windows is actually a DOS program.)

postscript Sometimes seen as "ps". PostScript is a printer language spoken by (strangely enough) "postscript compatible printers." A postscript file can have all sorts of nifty doo-dads in it, things like pictures, font changes, italics, etc. all the niceties of desk top publishing can be put in a file and printed out on any "postscript compatible printer." Text files in .ps are invariably MUCH better looking than their ascii counterparts. They are also HUGE.

ppf Pink Plastic Flamingo.

real time As the clock ticks. "Real Time" is the time on your watch. IRC is real-time, e-mail is not.

root The primary or default directory. When you say "root" you actually mean the "system" directory (which you certainly don't have access to), but saying "I left it in my **root** directory will be understood by all to mean that the file is to be found in the lowest level of your directory structure. Also *home* directory or *\$home* directory.

router "Router," "Gateway," it's all the same. See **gateway**.

.sig (also .signature) A short file which is appended to electronic mail and USENET posts. Sig's or "signature's" usually contain something about the poster, how to reach them via e-mail, some particular interest they might have, or some nifty ascii art. Some .sig's are interminably long and very annoying. With some fiddling, ANU news will append them, or you could just keep a file called "sig" in your home directory and INCLUDE FILE it at the end of your message or post.

smiley From time to time you'll see someone stick a :-) in a USENET post or in e-mail. This might seem a bit odd at first. If you tilt your head to the left about 90° you may see a smiley face. These are used to designate humor and let people know when you're joking in a world where people can't see your expression. Example: "Well Ralph, you never did have any taste in computers :-)" Other popular smilies are :) :-O and the "sad" smiley :(My personal favorite is the "punk" smiley with the mohawk --:-) Okay. So it's a little goofy. One more point, no one seems

Internet Users Guide

to know how to punctuate smileys, as adding a comma, or period or right paren to them would change the way they look. The best way is to just leave the punctuation out. Somewhere out there is a HUGE document of many many smileys. Quite a few of them are extremely creative.

snail mail The old fashioned paper variety mail which takes so long to arrive. The pun is on "U.S. Snail" – I mean "mail." Internet users (rightly) assume that no mail should take more than 10 minutes to be delivered

switch A modifier in a command. In the command

```
show users /full
```

"show users" is the command, and "/full" is the switch. Switches make commands much more versatile. Also "qualifier."

thread The continuing topic of conversation in a USENET group. "Threads" are usually distinguished by their sameness of titles, mostly prefaced by RE:. Example: "**Rec.motorcycles** is fun to read, but I get bored every time they start up that old helmet thread again."

UNIX A computer operating system very popular among computer geeks and cyberpunks alike. It was invented by a variety of entities. Notably among them, Berkeley University, and AT&T. It is generally accepted wisdom that UNIX is better than VMS.

unsupported feature A program or portion of a program that the maintainers no longer spend any time maintaining – usually due to obsolescence. SATURN, for example, has a BBS, you can type BBS at the \$ prompt, but if you have problems with it, no one will help you; the feature is unsupported. The Internet is chock full 'o unsupported features.

VAX Virtual Address Extension. (Oh, of course.) The VAX is a variation of the PDP (Programmable Data Processor) designed by DIGITAL in 1978. According to the New Hackers Dictionary, there is also a vacuum cleaner company in England called VAX, their motto "Nothing sucks like a VAX!" is often touted by computer users. The VAX uses a 32 bit processor and "virtual" memory

SATURN

("Pah!" you say, "so does my 486!" But can you have 28 people logged onto it at once? I didn't think so, smarty pants.) which has made it the most popular computer in the history of the world. The plural of VAX is VAXen.

VMS The standard VAX operating system. VMS stands for "Virtual Memory System" whatever that means.

Appendix C: Solutions to Frequently Discovered Problems

Oh great and powerful VMS oracle, I have traveled long up this difficult path. I beseech you please answer my questions!

Q: I'm calling in from home and nothing seems to work. I connect, but when I type **menu** the machine just hangs.

A: You're probably using the wrong terminal emulator. Get a copy of QVT.

Q: When I type MAIL, I don't get the EVE screen you say I should, I just get a stupid "*" at the bottom of the screen and I can't make heads or tails of it.

A: You've got the wrong editor selected. The "*" goes with EDT. At the MAIL> prompt, type

set editor tpu

to make everything better.

Q: I can't load news! Whenever I try, SATURN horks core all over me.

A: Try typing

show quota

this will tell you if you've used up all your allotted disk space. If you have, delete something. If you *haven't* (meaning that you still have free space left) try deleting your NEWS.RC file, this is drastic action. The NEWS.RC file is SATURN's record of what you like to read, what you have read, what you'll be likely to read tomorrow. If you delete this file it may get you up and running, but all the messages you've read in NEWS will be marked Unread. Oh well.

Internet Users Guide

Q: When I type show users /full I see that I'm logged on seventeen times! How is this possible?

A: You forgot to log out. Rather, you turned off the computer, hung up the modem or whatever. You've got to stop these ghost processes which are running around SATURN like Hamlet's father. When you type show users note the process names (the first one should be your name, the others will be something like _LTA6671. At the \$ prompt type

stop process_name

and do this until you've killed them all like rats in a barrel. Don't be discouraged if you accidentally kill your active process, just log in again. Keep up the good work soldier.

Q: When I try to finger my uncle Frodo at the National Security Agency I get a connect: connection refused message. Is their computer broken? Should I send mail to postmaster@nsa.gov and tell them?

A: Some places consider FINGER to be a security problem. Some places don't want anybody to know when their users last logged in, or if they're logged in right now or how long they've been away from their computer. Many places don't allow fingering for these reasons. Sorry, but you'll just have to suffer.

Q: I sent a talk request to my uncle Frodo, but he didn't answer. What gives?

A: Some systems don't have the TALK program installed. Have Frodo check with his system administrator to make sure they have access to TALK and make sure that they're using "ntalk" (new talk) as opposed to old talk.

Q: I accidentally deleted the wrong file. Can I undelete it?

A: No. But if it was really important, it might have been saved in the backup. Each night at 1:00 am SATURN does a tape backup of all it's files. Quick as a bunny send a note to Bruce Klein and let him know that you need a file restored. If the file didn't exist at 1 am on that morning, forget it.

Bibliography

Bynon, David W., *Mastering VMS*, Professional Press Inc, Horsham Pa, 1990

Bynon's book is good. It's obvious that he knows his stuff. I recommend it for those of you who reach that moment of epiphany where you say "Hey! VMS sort of makes sense!" There's a picture of him on the back of the book, where he looks like he's not quite getting a joke that someone's telling. Unfortunately he doesn't look like the sort of person you'd want to invite to a party, but you never know.

digital equipment corporation, *VMS User's Manual (for VMS version 5.2)*, (Order Number: AA-LA98B-TE), digital equipment corporation, 1989

This is a huge, semi-useful, though entirely stoic reference manual. The coolest thing about it is that it was produced with the VAX DOCUMENT electronic publishing system, using *terminals* for crying out loud the poor slobs who wrote it typeset the darned thing in *ascii* instead of going out and spending \$2000 lousy bucks on a *Macintosh* and doing it in *FrameMaker*, which would make *sense*. This shows an unbelievable amount of mettle. I applaud them. Hats off.

Dries, J. Francis III, *The Married Man's Guide to Computing*, RCNJ Academic Computing Press, 1994

Gibson, William, *Neuromancer*, Ace Science Fiction, 1984

This is where we got *Cyberpunk*. Gibson is visionary. After reading it you'll see how technology expanded to fill the void he created with this book.

Huston, Geoff, *ANU News V6.0*, Australian Academic and Research Network, Canberra Au., 1990

Keyhoe, Brendan P., *Zen and the Art of Internet*, cs.widener.edu, 1992

The seminal in-house Internet guide. Kehoe was something like 19 when he wrote *Zen and the Art of Internet* which has been so widely distributed and read as to make him an overnight celebrity. He was severely injured in an automobile accident on New Years day 1994.

Internet Users Guide

Krol, Ed, *The Whole Internet*, OReilly & Associates, Sebastopol, Ca. 1992

Raymond, Eric, ed., *The New Hacker's Dictionary*, MIT Press, Cambridge Mass, 1992

Stoll, Cliff, *The Cuckoo's Egg*, Doubleday, New York, 1989

Cliff Stoll is great. He's not a geek, but he *is* a geek if you know what I mean. He's hysterically funny and this book is great for anybody, no matter how much you know about computers or how little. Buy it for your mom and dad, buy it for yourself. *The Cuckoo's Egg* is a spy story. It's fascinating and just reading it you'll find that you're beginning to understand more about the Internet just by osmosis.

INDEX

Account3-5, 7, 17, 21, 22, 25, 26, 34, 42, 59

Accounts32, 52, 69

America On Line7, 20-22, 26

 Sending mail to21

ANU NEWS8, 9

 Creating signature files17

ARCHIE62-66

 commands64

 e-mail65

 prog command64

 sites63

Archie.au63

attribution marks11

Compression programs38

C compuserve21, 22

EVE21, 45

 commands47

 printing from EVE50

 setting the mail editor to EVE21

 starting EVE46

FDA44

FINGER4, 28-30, 44, 56, 81

FTP32, 33

 ascii files39

 binary files38

 Commands34

 directories35

 get command37

 hash marks35

 mget39

 text files39

Geographic Name Server44

Internet1, 3, 4, 8

 accessing from home61

 accessing libraries through42

- account3
 - and snail mail79
 - and VMS1
 - AOL and Compuserve22
 - communication with other users28
 - cost7
 - e-mail address20
 - etiquette18
 - getting files from67
 - guides44, 69, 70, 74, 83, 84
 - Lack of standards on30
 - names of computers20
 - physical existence of3
 - Use on campus1
 - where to access3
- IRC51
 - commands54
 - nearest server51
 - sample session51
- KERMIT67, 68
- Line20
- Logging Out
 - and ghost processes81
 - of a SPAWNed session58
 - of the local prompt61
 - Saturn5, 6
- MAIL3, 4, 20-23, 25
 - deleting21
 - distribution lists22
 - distribution lists (sending to)23
 - extracting25
 - folders23, 24
 - folders (creating)24
 - folders (deleting)25
 - folders (viewing)25
 - forward21
 - forwarding26
 - internet address20

- MX mail22
- personal name25
- reading21
- reply21
- security27
- sending20
- setting the editor to EVE21
- MENU6
 - FTP33
 - in USENET13
 - MAIL20
 - USENET News9
 - SATURN menu won't work over modem62
- MUD6, 44, 71, 73
 - typing conventions on72
- MX Mail22
- NEWS
 - Closing10
 - Deregistering Groups13
 - Directory Commands14
 - Forwarding Messages10
 - Hierarchies15
 - Posting Articles11
 - posting etiquette18
 - Reading News9
 - Registering Newsgroups13
 - Replying to News Messages10
 - Saving Messages12
 - Search14
 - Skipping Messages12
- Password5
- PENpages44
- PGP27
- Phone30
- Plan file29
- Project file29
- QVT61, 67, 68
 - downloading with67

register dump

VMS77

SATURN3

calling in from home61

Show users DCL command58

sig files17

SPAWN40, 58

talk28-30

eitquitte30

TELNET42, 63

escape character43

uses for42

Terminal

terminals1

Terminal (see also VT-220

emulator (see also QVT)80

Terminal (see also VT-220)1, 4-7, 9, 42, 61, 75

emulator (see also QVT)67, 75

eumlation (see also QVT)62

Terminals (see also VT-220)42

USENET8

VAX1, 3-5, 17, 20, 22, 45, 67, 77, 79

definition of79

terminals1

VAX DOCUMENT83

VMS1, 5, 6, 17, 22, 56, 75, 77, 79

copying files60

DCL76

delete command57

directories17, 39, 58-60

entering commands from EVE47

EVE (see also separate entry for EVE)45

filenames13, 56, 57

finding help with17

on-line help56

phone utility30

register dump77

search14, 77

spawn58
vmsnet17
wildcards (see separate entry for Wildcards)57
VT-2202, 3, 67
Wildcards39, 57
*. *40
Yanoff List of Special Connections44