

# NETcetera II Main Contents Page

[Mail System - Detailed information](#)

[News System - Detailed Information](#)

[The Address Books System](#)

[General Information](#)

[An Introduction to the Internet](#)

[General Mail Topics](#)

[Using NETcetera II for Email - an Introduction](#)

[Getting Started with Email](#)

[Mail Redirection](#)

[Getting Online](#)

[Going Online to the Internet](#)

[Trumpet Winsock Information](#)

[Trumpet Dialler Scripts](#)

[Possible Winsock problems and fixes](#)

[How to use NETcetera II](#)

[Using the Keyboard to run NETcetera II](#)

[Setting up NETcetera II to autoload as different users](#)

[Setting up Cacheing](#)

[Recovering from disasters](#)

[Creating other users in NETcetera](#)

[The Main Windows](#)

[Mail Folders Window - The first stop for Mail](#)

[NewsReader Window - Handling NNTP News](#)

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# Going Online

At last we are going to connect up to the Internet, to see what mail awaits us, and to send any that was previously written.

It is essential that your Winsock is installed correctly, has correctly configured login.cmd and bye.cmd scripts and is configured to log in and out on demand. It would be a good idea to connect up the Winsock on it's own, using it's login.cmd script to see that a connection is properly established: better still use another Windows Internet application to see that proper communication with the Internet is occurring. If nothing else use Ping: try "pinging" one of your provider's IP addresses to see that packets come back. A simple Ping app is included with Trumpet Winsock v2.0 rev B.

In all the following, it is essential that your connection is closed down at the end of the session, either manually or by the Winsock's auto logoff procedure. Make sure this works properly: if you end up online permanently for the next three weeks, **NETcetera** will not be responsible for the phone bill !!!

It is a good idea to reduce the height of the **NETcetera** "parent" window, so that a spare strip is visible at the bottom of the screen, where the icons of any other applications running should be visible.

I will deal first with those using only one Internet provider: if this fails, then look at the sequence of actions for multi-provider users. This will probably confirm that there is something wrong with your setup.

## Single-provider users.

Press the "Online Internet Session" icon: check the actions you want carried out while online - "Send Mail" (if there is any waiting to go) and "Check for New Mail". Press "Connect" and then "Connect" in the next box. Now **NETcetera** will start the relevant software, which will call the Winsock (assuming it can find it!). You will see the Winsock's icon appear at the bottom of the screen, and if your modem has a speaker, hear it dialling the number, and negotiating with the modem at the other end.

Once a successful connection to the Internet has been established, **NETcetera**'s software will start communicating with your provider's post machine, and you will see brief one-line reports of progress in the Online window.

Outgoing mail will be sent, and if you have asked for incoming mail to be checked, and you are using SMTP, you will see that the Mail Server is active.  
POP3 mail sends a signal to your provider's mail machine, prompting it to deliver any mail waiting for you.

SMTP works differently: when you connect a signal is automatically by the login machine to your provider's SMTP Client, which waits for a pre-determined time before sending a signal to your SMTP Server. If this is running, it will reply that it is running, and mail will be sent to you. If your SMTP Server is not running when the signal comes from your provider's Mail, the lack of a response will be taken to indicate that you do not want mail delivered, and your provider's SMTP Client will go off and do something more interesting instead, even if your Server becomes active shortly afterwards. The time interval from connection to the signal from the provider's SMTP client is likely to be between 5 and 30 seconds.

The method of going online just described will usually work well, as **NETcetera**'s SMTP is active and waiting before the connection is made. Do not disconnect too quickly if you are unfamiliar with your provider's setup, as you might disconnect before mail starts to come in.

You will see mail coming in, with a note of which user it is addressed to, and being added to the database.

Once all activity is finished, Press "End comms session" and respond to the reminder screen. The bye.cmd script should now be called, and within a few seconds the phone hung up.

If there are any problems logging in or out, restore the Winsock icon by double clicking on it to see if there

are any clues on screen. To abort the execution of a script, press ESCAPE. If necessary, call the bye.cmd script yourself from the Winsock menu - Dialler-->bye.cmd.

### **Multi-provider users.**

You may be well versed in this, if so, skip this.

Do not try the above sequence even if one of your versions of Winsock is accessible to **NETcetera**. Another versions may well be found, either from hard disc, or in memory - I know, I have done it more than once.

Set up icons for your providers in a convenient program group: the one in which **NETcetera** resides might be suitable.

Change to the user appropriate to this connection.

Press the "Online Internet Session" icon: check the actions you want carried on while online - "Send Mail" (if there is any waiting to go) and "Check for New Mail". Do NOT press the Connect button in the next warning box ("Communications Startup") yet.

Minimise **NETcetera**.

Start the version of Winsock you want, windowed rather than minimised so that you can see what is going on. Observe the progress of the login script, and AS SOON AS it has finished, Restore **NETcetera** and press the "Connect" button. All being well, **NETcetera** will communicate happily with your provider, and when all activity has finished, you can press "End comms session" and respond to the reminder screen.

Now minimise **NETcetera**, and close Winsock - it should automatically call the bye.cmd script. Check that this works OK.

Normalise or Maximise **NETcetera** again.

If you have problems getting incoming mail, look at the note in the single-provider section above: you may need to be quick with your mouse to get everything running quickly enough.

It is anticipated that a future version of **NETcetera** will have its own dialler, which will call the (user-configured) Winsock. This will make this whole process much simpler.

# Trumpet Winsock Information

## MTU, TCP MSS and RWIN

A Short explanation for using these values: they will work.

Slightly longer explanation: they might not give you optimum speed of throughput, but work reasonably well in many circumstances.

Long explanation: These relate to the maximum size of the packets which travel between you and your provider, and how many are received at a time before any checking is done that they are all OK, and none have been lost. If you communicate with an area of the Internet where larger packets are used, these will each have to be broken into two or more packets by your provider before being forwarded to you. This slows things down a bit, which might not be a big problem to you if this is not that often, and you have a local-call connection. If you use connections in the Internet which are slow and liable to errors and lost packets, then allowing too many packets to arrive before checking them will introduce long delays while the packet(s) are resent. On the other hand checking too frequently when the connections are good slows throughput unnecessarily.

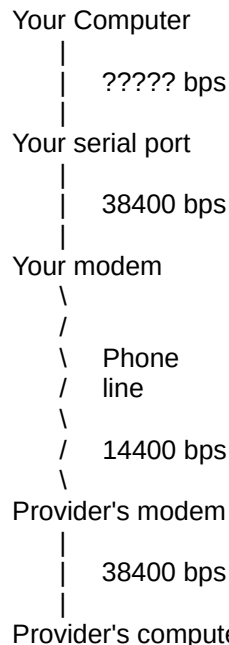
Many opinions are expressed on this subject: read, listen, experiment and consider what might be best for you. For the moment the above figures will at least work.

## **Modem and Serial Port Baud Rates.**

Short answer: set as high a baud rate as your setup can support, to avoid a 'bottleneck' at your serial port (the "entry gate" for data into your computer from your modem).

Long answer: this is a large and complex subject, not made any easier by the fact that computers are differently equipped and different modems are delivered differently set up, and often different use codes for setting them.

Baud Rates:



The above shows schematically the connection between you and your provider. Information from the Internet travels upwards. Let us assume you have a modem running at 14400 bytes per second (v32 bis),

but using v42bis data compression. This means that data is compressed to get more of it down the phone line in a given time, ie to make the transmission faster. Note the use of the strange names for the international standards, to confuse the unwary.

Put simply, if the data coming via your provider is highly compressible (which varies with it's nature) 38400 bytes that arrive at their modem in 1 second might be compressible to only 14400 bytes, and thus can be sent down the phone line in that same second, instead of taking over two and a half seconds.

This is wonderful - you think! Your modem (as long as it is capable, and has set up an appropriate connection with your provider's modem) will expand this 14400 bytes to it's original 38400 bytes, but this now has to get through your serial port and into your machine before the next second's-worth of data arrives. If you have set your computer's serial port speed to 14400, it will not get through in time, and the whole system will have to be halted until the way is clear. This start/stop process slows throughput, and can defeat the object of using data compression.

Setting your serial port's speed to 38400 bps would sort out the problem, but some ports are not capable of this: if you are in this situation you will need to buy a 16550A serial port card for your external modem.

Internal modems do not usually suffer from these problems.

#### **Modem initiation string.**

This is a code, or string of codes sent to your modem to tell it how to behave in the connection you are about to make. Often the factory settings are OK, but it may be necessary to alter these before you dial in. And you may want to copy the new settings into a special storage area for later re-use, called NVRAM. It is difficult to make precise general statements and you would be best to consult your modem handbook, provider, or whoever you got the modem from. If like most people you are using a high speed modem (14400 or above) and particularly if you are using data compression, the setting up of the modem can be crucial.

# Trumpet Dialler Scripts

## Scripts for logging in and out.

You will need suitably configured LOGIN.CMD and BYE.CMD scripts. Samples are supplied with the Winsock package, or you may get a sample (or even pre-configured) LOGIN.CMD script from your Internet provider. Various examples are also available from others on the Internet.

BYE.CMD simply hangs up your phone line and is very simple, so no more needs to be said. You can use the one provided with Trumpet Winsock. LOGIN.CMD will:

Configure the modem to its required state for this connection - "initialise"

Dial your provider's phone number - scripts can be written to redial if a connection is not established - eg their line is busy, and can even be organised so that they will dial alternative numbers in this situation. See that the two modems successfully negotiate a connection between them.

Respond appropriately to your provider's login sequence, giving information like your host name, password and the protocol you want to use.

Once the SLIP or PPP connection is established, close down and leave Winsock to do it's work of translation.

## Trumpet's own script.

This is not ideal: it works but needs modification for some providers and although it will redial the same number up to 10 times, it will not cope with the situation where you get a connection but the login sequence is not successfully negotiated. The following should at least get you started.

If you are new to this sort of thing, and have to sort out your own script, it is probably worth starting with the two sample scripts provided, DEMON.CMD and ZYNET.CMD, which are configured for these two providers but may work with others. If these will not work with your provider, the Trumpet script itself (LOGIN.CMD, together with it's configuration script SETUP.CMD) may, or after studying the principles involved, you might be able to suitably doctor one of them to work.

Please note that the CONFIG.CMD script will only work with the scripts DEMON.CMD and ZYNET.CMD, it will not work with Trumpet's own script which requires SETUP.CMD, also provided with the TRUMPET package.

## Using the sample scripts provided.

Make sure that the following scripts are in the Winsock directory: you can access from the menu any script there that has the .cmd file extension:

CONFIG.CMD	...	Script for configuring the other two.
DEMON.CMD	...	For Demon Internet.
ZYNET.CMD	...	For Zynet.

Start up Trumpet, and do a manual login (menu: Dialler-->manual login). The following is a typical result from logging in to Demon:

```
atdt01813434848
CONNECT 14400/ARQ/V32/LAPM/V42BIS
```

```
i.demon.co.uk (tty19):
demon login: trousers
Password:
Protocol: slip
trousers: IP Address: 158.152.999.999 Running SLIP on tty19
```

Our T1 (1.54 Mbs) to the USA is up and running.  
All PoPs up.  
HELLO

The first line is the user telling the modem to use tone dialling to call the Demon modem's number.

The second line is the response from the user's modem after it has successfully negotiated a connection with Demon's modem.

i.demon.co.uk (ttyc19):  
demon login:

The above comes from Demon and asks for the user's login or host name. The user types in trousers. The next line asks for the user's password, which is given, but for security reasons, this is not echoed back.

In response to Demon's asking what Protocol to use, the user has typed in slip. Demon responds with a confirmation message and the Message Of The Day. It is then necessary for the user to wait for the response HELLO which confirms that the connection into the Internet has been successfully established, before pressing ESCAPE to finish the login, and restore Winsock to its quiet translating task. Note that not all providers send HELLO, eg Zynet.

Use a Windows Internet application to check that communication is OK - the simplest way to do this is to use Ping, which you may have set up earlier.

Try 'pinging' your provider's gateway address. This will give you the time it takes for your packets to reach and return from the IP address you give. If you don't get a result, your packets are going nowhere, and you have not established a valid connection for some reason.

Assuming this is OK, mark the whole of the sequence in Trumpet's window and copy it to the clipboard (menu: Edit-->Copy). Don't forget to logoff (menu: Dialler-->Bye). Now start up a text editor like Windows Notepad and Paste this in from the clipboard. You can either print it out, or if you are happy working with multiple windows, keep it there, and copy and paste via the clipboard any information you require.

Now select from Trumpet's menu: Dialler-->CONFIG.CMD. This will ask you questions, the answers to which will be stored in TRUMPWSK.INI. This, and some other other information required for the login, will also be fetched from there when the final dial-in script is running. You will be asked for the following, which you can either type in by hand, or COPY and PASTE via the clipboard from the record of your earlier manual login:

Your login or user name.

Your password - note that Trumpet stores this in a coded form.

Six phone numbers to try. Simply enter the same one six times if you only have one, or various numbers you want tried one after the other, if a connection is unsuccessful.

Your modem's initialisation string, which must start with AT, at least for all but the most unusual of modems. This might be simply AT&F to reset to factory defaults, or ATZ to reset to the values in NVRAM.

The string your modem returns when it has successfully negotiated a connection with your provider's modem. In the above example of a manual login, it was CONNECT 14400/ARQ/V32/LAPM/V42BIS

Now you are ready to try out the script: Go to Menu: Dialler--> Select the name of the script you want from the list below, DEMON.CMD OR ZYNET.CMD. Both scripts will call PING when a connection has been established, so you can check that all is working, as in the earlier manual login.

If the script does not work, disconnect and try to work out from the sequence on the screen what has not

matched with your provider's login procedure, and amend the script accordingly. You will certainly have fun!!

If successful, this script should work well in almost all circumstances, continuing to dial again and again until a successful connection into the Internet is established.

Once you are satisfied that your chosen (and perhaps modified) script is working, rename it to LOGIN.CMD. You can do this from Windows File Manager, after first deleting any other file with this name - Trumpet's own sample script under this name is probably there. Or you can load it into Windows Notepad and resave it under this filename, overwriting any other file of this name.

To complete the installation, go to the menu: Dialler-->Options and check the box for "Automatic login and logout on demand". Winsock will now automatically dial in (using LOGIN.CMD) when started (either manually by you or by **NETcetera**) and will hang up (using BYE.CMD) when closed, again whether this is manually or by **NETcetera**. The only slight problem is that if you want to make some adjustments, it will dial in as soon as you start it. As long as Trumpet Winsock is not minimised, ESCAPE will abort the script.

And last of all, put a value in the box "SLIP inactivity timeout". If no data has passed through Winsock to or from the Internet for this period of time, Trumpet Winsock will close down automatically: this is to prevent you being on the phone forever!

1 minute might be OK if you are using some sort of unattended login, but will be too short for a lot of purposes.

2 minutes will be OK for many purposes, but will be troublesome if you spend a long time (say) reading a page on the World Wide Web.

5 minutes might be reasonable for many purposes.

And last of all, if you no longer want PING to be called, open your chosen script in, say, Windows Notepad, and either delete the following line, which is at the end of the script:

```
exec "pingw"
```

If you want to keep it 'just in case' put a # at the beginning of it. Note that anything after a # on a line is treated as a remark, and is ignored.

### **The HOSTS file.**

A sample of this will probably be included in your Winsock package.

Computers work best with numbers, but people find names much easier. For instance a computer would be very happy with "10.15.8.14 " but we find it easier to say and remember "John".

Every location on the Internet has an "IP Address" - a sequence of four numbers (maximum of 3 digits each) separated by full-stops (periods for the North Americans). So my software might need to contact post.demon.co.uk, but would not be able to do so unless it knows the IP Address of this. So, a "DNS lookup" occurs - a request is made to a Domain Name Server (often run by your provider, or one shared with someone else). This returns 158.152.1.72 and your computer can now use this to communicate with post.demon.co.uk.

In some circumstances (particularly when running off-line), and particularly with IP addresses commonly used such as a gateway, post or news machine, it is easier for Winsock to look up the equivalent IP address in a file on your hard disc - the HOSTS file. Add (using a text editor like Windows Notepad) the names and IP addresses of such locations, following the format of the entries already there. You can



leave those entries, they will do no harm, and you MUST leave the following entry, as it is essential for communication within your computer:

127.0.0.1          localhost

The only disadvantage of this arrangement is that if the IP Address for a name is changed, Winsock will continue to try the outdated, and maybe invalid IP Address. These changes are not common, and should be announced to those most likely to be affected, but it sometimes does happen that a user or two is not aware of them, and they have much "Fun and New Learning Experiences" before discovering the change.

# Possible Winsock problems and fixes

## **Possible problems with Winsock.**

**NETcetera** has no way of knowing if Winsock has established and is maintaining a satisfactory connection into the Internet. This is a common limitation of such programs at the present time.

Thus if something goes wrong in the Winsock area of things, **NETcetera** may continue innocently on it's way. You might get a "Transmission Error" for this reason, but might also get it for other reasons. If you are in any doubt, maximise Winsock, and try to assess what is going on from it's window. If necessary close down the online session from **NETcetera**, and if Winsock does not hang up your phone, do this yourself - either from the menu (Dialler-->Bye) or by closing Winsock, when it should do it automatically.

Go online again, and you may well find that all proceeds perfectly, such is the way of these things.

## **Busy Providers.**

If your provider's modems are constantly engaged, and your script redials repeatedly without success, you may well get error messages. The reason is as follows:

When **NETcetera** calls Winsock, a chain of events is put into effect, and a pre-determined maximum waiting period is initiated for the Internet connection to be established. If the connection is established within this period, than everything continues according to plan. But if at the end of this period the script has not successful, then the next steps in the process will be taken regardless.

This leads to error messages and complaints that files cannot be found, and that various things are needed that are not there. Don't worry, they are there, but not as expected.

I am not sure exactly how long this waiting period is: one person reported that it happened regularly after 12 redials by his script; I have found it after perhaps 20 redials, perhaps because my script ran a little faster.

Close everything down and try again. If you then have strange problems, try rebooting your computer. Try again, if possible at a less busy time.

# An Introduction to the Internet

## Introduction and allegro for computer enthusiasts.

There are many good texts available about the Internet and how to use it which will give deeper and more extended information than this small guide, which is written mainly for those relatively new to this exciting subject, and aims to explain in outline how the Internet works, and how **NETcetera** will help you use it.

Those more experienced in this field will probably find much of this very basic, but might still benefit from at least reading through the tutorial section.

I am assuming you will be using a dial-up connection: if you are on some sort of local network, you, or your network administrator will know how **NETcetera** should be installed and used.

## What is the Internet?

It is not a single entity, owned or managed by any one person. It actually consists of many different, separate computer networks, with various connections and gateways between them. Agreements between the various parties, intended for the benefit of all concerned, mean that information can be passed over them, if necessary around the whole globe, quickly and without the need to pay for the use of the connections as you might pay for a telephone call. In general, each part of the Internet is paid for by its owner, who gives some use of it to others, in return for use of the networks, routers etc belonging to others. If you pay a subscription to an Internet provider, part of this may well go towards installing and running a small part of the Internet, which is used by others as well as you.

At various points are "routers", machines which know the routes by which they can send information on the next step of its journey. Often if one route is unavailable for some reason, they will know of alternative routes they can use. In fact this was an important aspect of the US military network from which the present-day Internet evolved. In times of conflict, it is important to be able to send information anywhere even if parts of the network are damaged or destroyed.

## How is information sent around the Internet?

To computers, information is simply a string of numbers, even if for us humans it starts out (and ends up being converted back to) text, pictures, sounds, or whatever.

In order to manage the vast amount of information travelling around the Internet, these strings of numbers are broken down into "packets", which consists of a number of bytes of data, and a small number of bytes of "header". The data is your information, the header is information to identify the packet, where it is going, and where it has come from. Machines along the route will sometimes need to read this header to find out what to do with the packet. The packets are then interleaved with others in order to be able to send them all down the same connection.

Imagine the very simple example of two people sending information from A to B: first a packet belonging to User 1 is sent, then one from User 2, then another from User 1, then another from User 2, then maybe one from user 3 which has just arrived at point A and also needs to go to B, and so on. This ensures the most efficient use of the available capacity at all times, but it also means that no-one has exclusive use of any link: they are all continuously shared. This may sound like a very complicated and time-consuming operation: complicated it is, but using modern computers, it is extremely fast. It would take an army of people to undertake such a task using pieces of paper.

The size of the packets, the way information is organised within the header, and the way in which computers interact with each other is known as a protocol: I call this "Internetese". Different machines may "speak" different dialects, but this is not noticeable to a user: any translation needed is sorted out by the various machines along the way, all we see is that our data arrives safely at its destination (mostly!).

You will probably communicate with your Internet provider using one of two protocols: SLIP (Serial Line Internet Protocol) or PPP (Point to Point Protocol). However your data is handled elsewhere on the

Internet, between you and your provider it will travel using SLIP or PPP. If necessary, your provider's machine will translate into SLIP or PPP any data it receives which is in another form.

### **Why do I need a modem?**

Simple telephone lines carry sounds very well, but not digital information (numbers converted into a series of 0s and 1s). Modern technology is now making this possible, but for the moment it is necessary to have a modem to convert our digital data into sounds. These arrive at the modem at the other end of the phone line, which converts them back into digital form. Modern modems can also "compress" data so that it takes less time to send: it is "decompressed" by the receiving modem. For communication to work, it is necessary that the two modems speak the same language. In the past this was a source of much "Fun and New Learning Experiences" - see later - but nowadays they sort this out between themselves for the most part.

### **What is NETcetera?**

The latest version (NETcetera II) enables you to collect, read and write both Internet mail and Usenet news while you are offline - ie not connected to the Internet through your phone line. Later additions to the package will enable you to undertake other online tasks such as FTP, Archie and Gopher.

On it's own, it is not able to communicate through the Internet, for this it requires a helper program called a Winsock.

### **The Winsock**

Netc, like most computer applications, can only speak "digi-talk" - my pet name for the means by which computers pass information around inside themselves, and, in certain (non-Internet) situations, with other computers to which they are connected. **NETcetera** does not speak "Internetese".

A Winsock is an application that speaks both of these perfectly, and can translate between them very quickly and reliably. It sits in memory taking information from the Internet and passing it, in a suitable form, to **NETcetera**, and taking information from **NETcetera** and passing it, in a suitable form, to other computers on the Internet.

In addition, the Winsock package usually includes the means to dial in to your Internet provider and arrange a proper connection through them into the Internet, and the means to disconnect when you have finished.

This is an extremely complex field, and in the past has been effectively limited to expensive commercial applications, but recently, particularly with the wider interest in the Internet, more accessible packages have become available. A very popular shareware product is Trumpet Winsock, written by Peter Tattam in Australia. The complexity of this field is demonstrated by the fact that it has been subject to many revised versions, each seeking to solve problems that have emerged, but occasionally introducing new ones as well. The current version at the time of writing is 2.0 revision B, which seems stable, and has a useful scripting language for the login and logout scripts (of which more shortly).

I will concern myself here with Trumpet Winsock, as this is so widely used; the details will be different for other products, but the general ideas may be useful in making sense of what goes on, and what you, the user, need to do.

The configuration and use of Winsocks can give rise to a great deal of "Fun and New Learning Opportunities" - some people refer to these as "Frustration and Errors". The first law of computing (if it can go wrong, it will) is fully in operation.

So, when you have composed your mail and news it is time to connect to the Internet: what happens? Depending on what you have asked it to do, **NETcetera** starts various pieces of its software. These can include:

SMTP server - to receive new incoming mail.  
SMTP client - to send out mail.  
NNTP client - to receive Usenet news articles.

These in turn call the Winsock from your hard disc - they must be able to find it, of which more soon. Once it has installed itself in memory, the Winsock (if configured to do so) will automatically call the login.cmd script, which will dial to your Internet provider, allow the modems to negotiate (so that they are talking to each other sensibly), and then go through the login process with your provider so that a connection into the Internet is set up.

>From then on, Winsock sits in memory liaising between **NETcetera** and the Internet, until all the tasks you have set to be done are complete. You then instruct **NETcetera** to finish the online session, and this in turn calls the Winsock's bye.cmd script, which hangs up your phone, and closes down Winsock.

### **Installation of Trumpet Winsock.**

If you use more than one Internet provider, then the arrangement will be more complex, and will need to be tailored to your individual situation. It is likely that those in this situation will have enough knowledge and experience (or access to someone with these) to deal with it. You can be sure to have much "Fun and New Learning Experiences".

I shall confine myself to the single provider situation, which is by far the most common.

A very important aspect of the installation is where to put the various Winsock files. It is essential that **NETcetera** can find them, and they can find each other, under all conditions.

Install them all in the same directory, so that you can find them if you need to (you will), and if you upgrade to a later version, you can be sure you have overwritten all the necessary files. If they are not together, you can be sure that a stray, (perhaps earlier, incompatible) version of one of them will be found at some point in the future leading to error messages, and "Fun and New Learning Experiences".

There are various possibilities for the directory into which they could be put:

- 1) In a directory which is already on your DOS Path (see DOS documentation for information on what this is). eg c:\dos or c:\windows.
- 2) In the base directory for **NETcetera**, typically c:\netc.
- 3) In a directory of their own, which is placed on the DOS Path (by amending AUTOEXEC.BAT - see DOS documentation.)

Option (1) has the disadvantage that the Winsock files will get lost among a large number of others.

Option (2) will usually work, but strange combinations of circumstances can occasionally arise which lead to **NETcetera** failing to find the files. Overall, option (3) is perhaps the preferred one. But YMMV - Your Mileage May Vary. Different people with different circumstances on different machines may get different results, and each option has its advocates and critics.

A "belt and braces" approach might be to combine (2) and (3), putting them in the **NETcetera** base directory, and adding this to your DOS Path

Once you have copied the files into the chosen directory, and installed an icon for Winsock (for manual access - you will need it sometimes), you need to configure the main program with information about yourself, your computer setup, and your provider.

You will also need suitably configured login.cmd and bye.cmd scripts. Samples of these are usually supplied with a Winsock package. The latter simply hangs up your phone line and is very simple, so no

more needs to be said.

You may get a sample (or even pre-configured) login.cmd script from your Internet provider. Essentially this will:

Configure the modem to its required state for this connection - "initialise".

Dial your provider's phone number - scripts can be written to redial if a connection is not established - eg their line is busy, and can even be organised so that they will dial alternative numbers in this situation.

See that the two modems successfully negotiate a connection between them.

Respond appropriately to your provider's login sequence, giving information like your host name, password and the protocol you want to use.

Once the SLIP or PPP connection is established, close down and leave Winsock to do its work of translation.

A final point about the HOSTS file, a sample of which will probably be included in your package. Computers work best with numbers, but people find names much easier. For instance a computer would be very happy with "10.15.8.14 " but we find it easier to say and remember "John".

Every location on the Internet has an "IP Address" - a sequence of four numbers (maximum of 3 digits each) separated by full-stops (periods for you Americans). So my software might need to contact post.demon.co.uk, but would not be able to do so unless it knows the IP Address of this. So, a "DNS lookup" occurs - a request is made to a Domain Name Server (often run by your provider, or one shared with someone else). This returns 158.152.1.72 and your computer can now use this to communicate with post.demon.co.uk.

In some circumstances, and particularly with IP addresses commonly used such as a post machine, and a news machine, it is easier for Winsock to look up the equivalent IP address in a file on your hard disc - the HOSTS file. Add (using a text editor like Windows Notepad) the names and IP addresses of such locations, following the format of the entries already there. You can leave those entries, they will do no harm, and you MUST leave the following entry, as it is essential for communication within your computer:

```
127.0.0.1      localhost
```

The only disadvantage of this arrangement is that if the IP Address for a name is changed, Winsock will continue to try the outdated, and maybe invalid IP Address. These changes are not common, and should be announced to those most likely to be affected, but it sometimes does happen that a user or three is not aware of them, and they have much "Fun and New Learning Experiences" before discovering the change.

# Using Cacheing

## General Explanation.

The mail and news items are held in databases, and when there is any change (one is added or removed, marked to Keep, or as Seen) this information has to be recorded in the database disk files. If no cacheing is in use, this makes for maximum security as each record is written to your hard disk: but, if you are using cacheing, and in the event of a power failure or 'glitch' your information is not necessarily safe. To ensure it is safe, it must be forced to be written to your disk, however, this can make for slow operation: each time you go to another message or news article, it has to be read from the disc by **NETcetera**, an operation which occurs at a 'high' level - this means that instructions for a small piece of information to be obtained have to be translated down to the machine's level and actioned. This can make for slow operations on older and slower machines such as 386 SX/DX PC's.

Cacheing enables most or all of the immediately needed information to be held in your computer's memory (RAM), from which it can be retrieved extremely quickly. The disadvantage is that should there be a 'glitch' it could be lost, as RAM loses it's memory when it's power supply is disrupted. **NETcetera** has two systems for reducing the risk of this while using cacheing to speed things up enormously.

For each user, there is a suggested cache size for news and mail: These figures may change if the amount of information in the database changes eg you download or expire a great deal of news. It is suggested that you decide on how much memory you have available and then set your cache size to use as much of this as is reasonable. Data is automatically 'flushed' to disc periodically, but you should hardly notice this. The maximum cache permitted is 500 for News and 500 for Mail.

If you are in very difficult situations, and data security is vital (eg dodgy power supplies, using radio links into the internet) then checking 'Maximum Security' in the General Configuration dialog too. This will flush data to disc frequently, and although this will lead to some reduction in speed, you will probably find it faster than not using cacheing whilst preserving your data integrity.

## Virtual Memory.

Microsoft Windows permits the use of disc memory to act as RAM: this sounds a contradiction in terms, but can be in fact a very efficient way of making the best use of your machine's resources. By using Virtual Memory (particularly a permanent swap file) great chunks of data from RAM can be transferred to disc, using very low-level methods, which are much quicker than normal applications (like **NETcetera**) can do it. Thus if RAM becomes full, some of the contents that are not immediately needed can be shifted to disk, giving room for more data in RAM. If some of the data that is now on disk is required, the same can happen, temporarily redundant data is transferred to disk, and the required data moved into RAM so it can be accessed.

In this way, **NETcetera** can run very quickly, using cache sizes greater than the actual physical RAM in your machine. See your Windows documentation for further details of how to use virtual memory.

# Using NETcetera II for Email - an Introduction

## Netcetera - mail functions, general concepts.

In this description it is assumed that your Internet provider allows multiple user names. If you are in this situation, you will normally choose a Host Name eg trousers, and combine this with the Domain Name of your provider, eg trouser.demon.co.uk . To this you can add user names, giving addresses like: john@trousers.demon.co.uk .

As far as your provider is concerned, mail is delivered to your Host Name, the user name is irrelevant.

Some providers only provide a single user name, such as abc1234@xyz.com. This means that the situation regarding multiple user names does not apply to you in the same way, You have one "real" user name, in the above example, it is "abc1234". However it is possible to create "virtual" user names using **NETcetera**'s Mail Redirection facility, with the same net effect. Read the following, but later, in setting up users in addition to (say) "abc1234", go to the section on Mail Redirection. Notes will be included at points in this document where the situation is different for you: you will be referred to as "Single User Accounts".

It is important that however you configure **NETcetera** in this respect, you do not contravene your agreement with your provider, who may only allow one individual or family to use one account.

**NETcetera** mail is built around users and folders. Users each have a unique name, like john or Fred or mary, and a password. Each user has a folder in which messages can be stored, where they are visible only to that user, and not to others. There are also other folders created by **NETcetera** for administrative purposes, and extra folders can be created by the users if they wish. Mail placed into other folders can be kept secure, or marked as "GENERAL" ie visible to all users.

Note that this "security" is only within **NETcetera**, anyone with a basic knowledge of access to computer files would be able to access them outside of **NETcetera**. Its main function is to avoid the user being assaulted by messages, which he cannot sort out, one from another.

These users can be different people, and/or the same person using different user names for different purposes. **NETcetera** can be configured to work slightly differently for each user, but more detail of this can be found in later sections.

Let us take as an example to illustrate both the functioning and potential of **NETcetera**, the Smith family. They gradually increase the complexity of their use of **NETcetera**, so you can stop reading if you wish when you have understood enough for your purpose. Please note that all names used are purely imaginary, being for illustration only.

John Smith has a dial-up internet connection at home via Demon Internet (who do actually exist): he uses different user names for different purposes. He uses jsmith for business correspondence, john for correspondence with friends and relatives, and gerbils for a listserver list to which he subscribes. This is a type of discussion group run by e-mail through a central computer. This separation enables him to more easily keep track of his mail, responding most urgently to (say) business stuff, then family mail, and when he has time, reading and perhaps responding to the gerbils list. He tells his wife (Mary) the password for the family correspondence, but not for the other users (perhaps the "gerbils" list is not about gerbils after all!). Mary can thus read and reply to family mail.

Thus we have the following e-mail addresses created automatically by **NETcetera** for the individual users:

jsmith@trousers.demon.co.uk  
john@trousers.demon.co.uk  
gerbils@trousers.demon.co.uk

Note that jsmith, john and gerbils are User Names, trousers is a Host Name and demon.co.uk is a



Domain Name.

When John (or Mary) connects up to the internet via Demon, any mail waiting to be sent off is sent via Demon's mail gateway, regardless of which user wrote it. Any mail waiting at Demon, for any of the users, is received and placed automatically in the folder for that user. If mail arrives addressed to a user who doesn't exist, eg johnsmith, it will be placed into the folder "POSTMAST", and marked as "GENERAL" so that all users can see and claim it.

Mary Smith now gets an internet connection of her own (perhaps through her employer) with Zynet (who also exist). She creates two more users: msmith for business purposes, and rats in order to subscribe to a listserver - perhaps she has found out what gerbils is really about! She continues to use john for family correspondence. **NETcetera** thus automatically creates two more e-mail addresses:

msmith@pullover.zynet.co.uk  
rats@pullover.zynet.co.uk

Note that Mrs Smith is not using the same Host Name on Zynet's computer as Mr Smith did on Demon's. Often it is possible to use the same Host Name with different Internet providers, but sometimes there are limitations on choice (names are allocated by some big providers automatically, so you get Host Names like a24dcb567) or it may be that someone else chose your favourite name first.

If John logs in to **NETcetera** under one of his user names, and connects up to the internet via Demon, all mail waiting to be sent off, (including that written by Mary under user msmith or rats) will be sent via Demon's mail gateway. However, only the mail for John's user names will be picked up from Demon's computer where it is waiting: it will be necessary for Mary to log into **NETcetera** under one of her user names (msmith or rats) and connect via Zynet for her mail to be collected from their computer where it, in turn, is waiting. Naturally any outgoing mail would be sent as well, through Zynet's mail gateway.

Now Mrs Smith's widowed mother aged 65 comes to stay with them for 3 months, from Australia where she now lives. An additional user is created, granny, so that she can keep in touch with her gentleman friend in Australia. She creates her own password, which she doesn't give to her daughter and son-in-law, for obvious reasons! User granny is configured to use Demon, so we have another e-mail address automatically created by **NETcetera**:

granny@trousers.demon.co.uk

Sending and receiving mail is the same as previously, Mrs Smith Snr's coming in when John or Mary connects to Demon, or Mrs Smith Snr can learn how to do this herself (it is so easy using **NETcetera**) with the same results as if John or Mary had connected to Demon.

Equally, the Smith's children could also become users if they wished, using either Demon or Zynet for their internet connection, or another provider altogether if they wished - they might have a dial-up connection through their school or university. The sending and receipt of their mail would follow similar rules as for their parents and their grandmother.

Each user can read their mail, and if they wish, file it away in other folders they create, or they can delete it. Deleted mail is first stored in a folder called DELETED, from which it can be retrieved later if necessary. Periodically, each user can look through the messages they have placed in DELETED and purge them from the system if they are sure they do not need them again.

That is the basis of the mail facilities: now move on to the tutorial section which will lead you through the setting up of new users, and the basic use of **NETcetera**.

# Creating other users

Go to Menu: Configure-->Users-->Maintain

You will find a dialog box. Press "Add User", and click in the "User" box, entering a user name, eg john. Note that names like john and John and jOhN will all be treated as one user, so if you want two johns, use for instance john and johnie.

Single User Accounts: enter the user name allocated to you, ie the bit before the @ symbol. eg if your e-mail address is abc1234@xyz.com then enter abc1234

Similarly enter a password if you wish (it is not necessary, but if you do use one, DON'T forget it!), your real Forename and Surname. (These will be placed in the headers of messages you send.)

The "Profile to use" option tells **NETcetera** to set up the new user to work in the same way as the user selected in the box: Later, having altered the configuration of this first user to suit yourself, you can use this user's profile to set up further users.

Click on "Save New User" if you are happy with the details, and a data entry screen will be displayed to let you enter the email details for this new user.

Enter the "Mail Address:" in the form:      host.domain

If you have the host name trousers with an Internet provider whose domain is demon.co.uk then this address will be:      trousers.demon.co.uk

Single User Accounts, with an e-mail address like abc1234@xyz.com should enter:      xyz.com

Check the SMTP or POP3 button, depending on which type of mail service you have from your provider. If you select POP3, the POP3 details panel will become active to let you enter the required details for POP connections.

Enter the name (or IP Address) of the mail machine (gateway) you will be using: you should have this info from your provider. If more than one is available to you, enter the rest. If necessary select the one you want to be used as the default - ie the one to be tried first.

# Address Books

## The Address Book

Before going further, it is necessary to cover the address book. So press the address book icon on the toolbar, and you will find a "stack" of cards like those in the mail setup for each user.

You will find one address book created with an address for **NETcetera** Support there. You will probably want to create another address book for your own use. You can have many different address books, either named after users, or for particular purposes, such as Friends, Family, Business. Thus you can group addresses together in ways which suit you. The contents of all address books are visible to all users.

Click on "Book Maintenance" and press "Add" to create your first address book. Enter the name for this book in the box and press "Create": if you now open the "Current Book:" drop down box, you will see your new book listed there.

Note that you can later delete or rename any book you have created, from this screen. You can also make a duplicate of any book (with any entries it contains) by using "Copy".

Now add some entries to this new book: press "Entry Details", open the drop down box "Current Book:", and select your new address book. Press "Add New Entry", and you will be able to enter details in the various boxes.

Only the alias field may be a bit of a puzzle: this is intended to be an abbreviation for one or more addresses, which can be inserted in any of the address boxes of a message, to save you searching for the whole address. **NETcetera** will find it for you.

For instance you have one brother with whom you correspond by e-mail, so you might enter "bruv " (the quotation marks are not needed) here, so that when writing to him, you only need write "bruv" in the To: box.

Or, if you corresponded with a few friends about the TV programme "Red Dwarf" - there is actually a Usenet news group about this, but more of that in the section on news. You send a copy of each message to all of them. You can write "dwarf" in this box for each member of the circle, and when you put "dwarf" in the To: box, all of their addresses will automatically be placed there.

When an alias is used in a message, all address books will be searched, and all addresses with this alias will be used. Thus you should not use one alias for more than one purpose, but if your fellow enthusiasts include people who are scattered across your personal, business or other address books, their addresses will all be found.

And be careful that if your wife uses **NETcetera** on this machine to correspond with other people involved in research on hereditary dwarfism, she does not also use the alias "dwarf" for those addresses, or considerable confusion could be caused!

Also, if the alias name is the same as another user of **NETcetera** on this machine, with the same host and domain name as the current user, then the message will be sent to them. eg if you used the alias "netcetra" all messages would go to, for instance, netcetra@trousers.demon.co.uk. This can be useful if you intend it to happen.

Press "Save" when you are satisfied with each entry, and press "End" when you have finished adding entries.

Note that you can move forwards and backwards through the entries using the arrows at the upper left, and you can "Edit" (change) and "Delete" entries from this screen.

You can "Close" the address book from any of the three stacked "cards".

# Mail Redirection

## Mail Redirection.

This is a facility to enable mail satisfying certain criteria to be directed into a folder other than that labelled with the user name to whom it is addressed, or to be destroyed immediately, without being seen - KILLED.

The three following areas can be defined:

### **The Sender of the Mail, as given in the From: line**

So that you can place mail from mike@hilltop.nowhere.com into a folder you have created called MIKE.

### **A word or series of words occurring in the Subject: line**

So that you can place mail containing the word "gerbils" anywhere in the subject line into a folder called GERBILS

### **The whole of the subject line.**

So that you can receive normally any message containing the word "gerbils" but place anything which reads exactly: "Buy wonderful gerbils from me" into a folder called JUNK.

Any of the above can be used to KILL a mail message, rather than place it in an alternative folder.

### **To redirect mail**

Go to the Mail Configuration as already described, click on the bottom "card", Mail Redirection. Press "Add New".

If you want to redirect mail from a particular person, enter their e-mail address exactly as it occurs in the From: line in the header of a message from them. Do not include their name, as in:

From: Ian Turner <bc01@cityscape.co.uk>

You only use the bit between the < and > signs, ie bc01@cityscape.co.uk

If you want to redirect mail containing a word or phrase anywhere in the subject line, enter this in the "Subject" box.

If you want to redirect Gerbils but not gerbils, then check the "Match Subject Case" box.

If you only want to redirect messages whose whole subject line corresponds to what you have put in the "Subject" box above, check Match Whole Subject Line".

Open the drop-down box "Destination Folder", and select the folder to which you want such mail to be redirected. If you want never to see such mail, select KILL. But be careful, because once dealt with in this way, there will be no trace of the mail in **NETcetera**, and it will have been deleted at your provider's mail machine.

Note that if you have entered definitions for Subject and Sender, then that would be treated as "AND" ie such a subject definition from ONLY that sender will be redirected. Messages from that sender on other subjects, or from other senders on this subject will be accepted normally.

If you want to filter all mail from that sender, set up a definition only including their e-mail address; if you want mail from anyone on this subject to be redirected, again set up a separate definition based only on the subject.

Also, if you already know about "wildcards" (using symbols like \* and ?) note that these do not operate here, but will be accepted literally.

**Single User Accounts.**

It will probably be apparent from reading the above how you can now set up "virtual" users. To begin with you can simply redirect mail on particular subjects or from particular correspondents to suitable folders which you can create.

A more advanced approach is to ask everyone to whom you write to include some sort of identifier somewhere in the subject line, eg \*joe\*, and include this yourself, so that it will automatically be there if a reply is made to your message. eg

Re: Giant gerbils (from \*joe\*)

A simple way of ensuring that the request is included in every message is to put it in the sig file for this user, leaving a blank line, where you move to start typing. eg:

To simplify my mail-handling I would be grateful if you could include the following anywhere in the Subject line:   \*joe\*

abc1234@def.com   using **NETcetera** - naturally!

The rather nifty sig line proper will thus end up at the bottom of the message, and the request at the top, where it will (hopefully) be noticed.

# Using the Keyboard to run NETCetera II

## **See Also:**

[Mail List Windows](#)

[Mail Folders Window description](#)

[Mail Folders Window - Graphic](#)

[NewsReader Windows description](#)

[Newsreader Window - Graphic](#)

[NewsReader](#)

[Keyboard facilities](#)

## **General Information**

There are many keyboard alternatives - look at the menus for each window to see which are available in most of them.

**NETcetera** fully supports standard Windows behaviour. If there is a button in the active window with a letter underlined, then holding ALT and pressing this letter on the keyboard will have the same as pressing this button with the mouse cursor. eg in the Mail Folders window pressing ALT+R will take you to "Read Mail". This applies even if the button concerned is not currently visible, as may be the case in the Mail and News reader windows.

## **Creating more space on the screen.**

In some windows the button bar, can be visible or hidden - press CTRL+B to toggle between visible and hidden. The same result can be achieved by right-clicking anywhere in the window top panel, or to the right of the button bar, or on the narrow strip it leaves when all details hidden. The ALT+letterkey combinations mentioned above will all still work correctly when the buttons themselves are hidden - all you have to do is remember the key combinations!

Where there is an up or down arrow to the right of the button bar, this will hide or show the information panel beneath the button bar - CTRL+D does the same, toggling between show and hide.

In addition to the above facilities, if you have a limited resolution screen, and would like yet more available "Working" height on the screen when using the Mail Folders, Mail Lists or Newsreader windows you can also select a Floating Toolbar from the Configure menu option. This replaces the toolbar at the top of the screen with a smaller, and moveable toolbar with exactly the same functions. Dragging this to a less utilised part of the screen may be more convenient for you.

# Setting up NETcetera II to autoload different users

If **NETcetera** is started from the icon set up at installation (the default), or from a command line like:  
C:\NETC\NETCETERA.EXE

this will cause the software to always present the user with the user selection dialog, from which you can (quite reasonably !) select the user name under which you want to start **NETcetera** with. The user name highlighted in the drop-down box will be the last one to use **NETcetera**; you can simply accept this, or change it before going into **NETcetera** proper. If a password has been set up for the user selected, you will also have to enter this at the login dialog screen.

However, If you set up an icon in Program manager with a command line like:  
C:\NETC\NETCETERA.EXE John 0

then the user name John will be highlighted, rather than the last user.

But, If you set up an icon with a command line like:  
C:\NETC\NETCETERA.EXE John 1

then **NETcetera** will start immediately under user name John. Note that this bypasses the requirement for a password.

It is possible to configure **NETcetera** to always start up under a given user name, from the default icon, but this requires a knowledge of this user's password to set it up. This is called the Login Bypass. Go to the General Configuration, Startup Defaults and press "Set Login Bypass": this will enable you to select the user name from the drop down box.

But note that this will be overridden by a command line like:  
C:\NETC\NETCETERA.EXE John 1



## Recovering from disasters

The important information about your mail is all stored in a database, but the messages themselves are saved individually on your hard disk. Databases have a penchant for becoming corrupted under some adverse circumstances, eg if there is a power failure or 'dip' actually during database writing operations. If this does happen you are likely to get database error messages, and even if only one message is affected, this will affect the whole functioning of the database, as all of it is checked for many purposes.

But fear not !! **NETcetera** will be able to retrieve all your data under almost all circumstances.

First try reindexing the database. Close all Mail windows and Go To Menu-->Configure-->Utilities-->Reindex Mail Subsystem.

If this does not cure the problems, you will need to undertake a more drastic process: Go To Menu-->Configure-->Utilities-->Mail Database-->Recover Mail DB (from Folders Contents)

Both of these methods should recover all of your mail, though it will all be marked as Seen.



