Why Lawyers Need E-Mail

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Every day we read in the newspapers about the coming "information superhighway". As a cliche, it is rapidly reaching the point of being tedious. But the concept of electronic information transfer is definitely with us to stay.

There is no other profession for which the written word is more important than it is for lawyers. For those of us who practice as litigators, we are well aware of the truth of Lord Mansfield's remark that "Most of the disputes in the world arise from words" (Morgan v Jones (1773) Lofft 160, 176; 98 ER 587, 596). But the significance of the written word is, if anything, greater for solicitors in general practice, whether they are drafting, or construing and advising upon, written documents - such as contracts, wills, trust deeds and conveyancing documents - or engaged in any other field of professional practice.

Electronic information transfer offers lawyers, in the day-to-day practice of their profession, obvious practical benefits. It is strange, therefore, that we have been among the last of the professions to embark on the "information superhighway". Perhaps this is partly a result of lawyers' natural resistance to change, and partly a result of our fear of new technologies which we do not fully understand. But it is also largely as a result of the fact that there is very little material around to explain to lawyers how e-mail can assist them in daily practice.

This article is written by a lawyer with relatively low computer literacy, for the benefit of other lawyers with equally low computer literacy. It does not focus - as articles written by computer journalists and other techno-boffins tend to focus - on the huge mass of information which exists on the Internet and throughout the World Wide Web, which can be accessed at the click of a mouse: lawyers who are interested in that kind of facility will find all the answers they need in a series of articles by "Max Memory" in the *Australian Law Journal* under the title "Electronic Law - FAQ". Rather, the focus of this article is the much more mundane, but far more practical, matter of using e-mail as an alternative to other forms of information transfer.

When, in 1985, the contributor of this article was setting up chambers with Mr Fitzgerald QC, Mr Wensley and Mr Bain (as each of them then was), an extended discussion took place as to whether to purchase a telex or facsimile machine. A decade later, the idea of buying a telex seems almost laughably archaic; many younger members of the profession have probably never seen a telex machine, or know of it only as the oversized museum piece kept in a corner in the office, which is never used except (perhaps) as a door-stopper. While it is too soon to anticipate whether e-mail will ever completely replace facsimiles, this much may be confidently be predicted: within three years, and probably less, most Queensland lawyers will be using e-mail as a regular means of communication, at least as much as - and probably more than - they use facsimile transmissions.

WHAT IS E-MAIL?

Very simply, e-mail is a system for transferring information from one computer to another. Whereas DX and ordinary post (which computer types refer to as "snail mail") transfer information in "hard copy", and facsimile machines transfer information in the form of digitalised photographic images, e-mail transfers information in the form of computer-readable binary codes. Of course, the mechanics of the system do not matter either to the sender or the recipient: you do not have to understand the technology of e-mail, any more than you have to understand the technology in your fax machine, in order to use the system successfully.

Service Providers

E-mail operates through a huge numbers of "service providers" across the globe. A service provider is a computer which operates a "post office" or "clearing house" for electronic mail. Each service provider is linked with every other service provider, so that when you send an e-mail via your service provider it is forwarded to the addressee's service provider and, ultimately, to the addressee. One of the advantages of the system, as compared to a facsimile, is that to send an e-mail you need only ever contact your local service provider, which then relays your message to the addressee's service provider anywhere in the world: thus, apart from fees charged by your service provider, the cost of sending an e-mail should never exceed the cost of a local telephone call.

To receive or send e-mail, you need to have an account with a service provider, and an e-mail address.

E-mail addresses

An e-mail address always consists of two parts , separated by the symbol@, normally read "at". The part of the address preceding the @ symbol is known as the account holder's *mail box*, as it represents a separate file maintained by the service provider to receive incoming mail on behalf of the account-holder. The part of the e-mail address following the @symbol identifies the service provider, and is usually referred to as the *domain*.

The *mail box* is usually based on the account-holder's name; the *domain* includes the service provider's name, but may also provide other information about the service provider. The domain may include the abbreviation "com" - showing that the service provider is a commercial organisation, "gov" - showing that the service provider is a governmental body, or "edu" - showing that the service provider is an educational institution. The domain may also include a country code, such as "au" for Australia, "us" for the United States, "gb" for Great Britain, "hk" for Hong Kong, or "sg" for Singapore.

The only difficulty with e-mail addresses is that they must be replicated precisely, including full stops and other punctuation; and they are generally "case sensitive", so that an e-mail intended for the contributor of this article (whose e-mail address is *morrisqc@thehub.com.au*) will not be received if it is addressed to *Morrisqc@thehub.com.au*.

Computer hardware

Almost any modern personal computer can be used for sending and receiving e-mail. The chances are that the computer sitting on your desk (or your secretary's desk) will do the job perfectly well.

What you will need, however, is a "modem". This is simply a device which allows the computer to be connected with a telephone line.

Computer modems operate at different speeds, known as *baud rates*. The fastest speed 28,800 bytes per second. This is exceptionally fast. Given that a 40-page document ordinarily occupies about 100 kilobytes on your computer's memory, it should take about four seconds (or 10 pages per second) to transmit such a document at a baud rate of 28,800 bps.

Slower modems are available, and are somewhat cheaper. Whether or not to purchase a faster but more expensive modem is a matter of doing a cost-benefit analysis, as to whether the volume of e-mail you anticipate sending and receiving justifies the cost of the hardware needed to achieve faster transmission speeds. Speeds of 19,200 bps,

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14,400 bps or even 9,600 bps are perfectly acceptable, unless you are anticipating a high volume of e-mail. If, however, you also wish to download information from the Internet, faster modem speeds are highly recommended.

Your modem will have to be connected to a telephone line. It is quite possible to use an existing telephone line. Again, whether or not to have a "dedicated" telephone line installed depends upon your anticipated usage levels.

Software

When you open an account with a service provider, you should be supplied with a disk which contains all of the software required to send and receive e-mail. The disk should be accompanied by relatively simple instructions for installing that software.

When installed, that software will comprise a number of different programmes. Most commonly, there will be one programme for "logging on" to your service provider. This programme should automatically activate your modem, dial the appropriate number for your service provider, and follow the "protocol" to establish a connection to your service provider's computer. On some systems, you may have to type in your "user name" and "password" manually; some systems do this automatically.

Once you are logged-on to your service provider, a number of other programmes will then be available. You may, for example, have a "web browser" programme such as Netscape. You may also have a file-transfer programme for downloading programmes from the Internet. However, what we are presently concerned with is the e-mail programme. There are various e-mail programmes, the simplest and most common of which is "Eudora".

When your e-mail programme is first installed, you may have to set a variety of "options". One is to record your own e-mail address, so that all outgoing mail carries your correct e-mail address. You should also have the option of recording your proper name, so that this name also accompanies all outgoing e-mail.

Sending e-mail

If you are planning to send e-mail, your system should be configured to allow you to open your e-mail software programme (such as Eudora) prior to logging-on. You can then prepare the message which you are planning to send, including the e-mail address of the intended recipient. Then, when your message is ready to be sent, you can log on, send your message and log off. If you operate in this way, you need only be connected to your service provider for a matter of seconds while the prepared message is sent, thereby reducing the amount of time that you spend "on-line". If you are planning to send a number of e-mail messages, you can prepare all of them in advance, then log on, dispatch each of your e-mail messages, and log off: in this way you can dispatch more than 200 pages of text in less than five minutes.

Preparation of your e-mail message involves a very simple procedure. Your e-mail software programme will provide you with a kind of *pro forma*, with "boxes" for the name and e-mail address of the sender, the e-mail address of the intended recipient, the subject of the message and the message itself. If you have configured the appropriate "option" in your software, your own proper name and e-mail address will be inserted automatically. You must then type the e-mail address of the intended recipient, bearing in mind that the e-mail address must be precisely correct, including upper or lower case and punctuation; but if you are sending e-mail to particular addressees on a regular basis, you can simplify that procedure (and minimise the risk of error) by recording their e-mail addresses in an "address book" which forms part of your e-mail software, and by selecting the relevant e-mail address directly from the "address book'.

You have the option of specifying a "subject" for the e-mail message. The advantage of doing this is that, when the addressee receives the e-mail message, that "subject" will appear on the recipient's screen in the list of incoming e-mail messages. By specifying a subject, you will enable the recipient to distinguish between urgent and non-urgent e-mail messages, and to sort out the important e-mail messages from advertising bumph.

If you are intending to send only a short message that message can be typed directly into the message "box" in the *pro forma* provided by your e-mail software. However, for longer messages, you may prefer to "attach" a file which already exists on your computer, such as a file containing a letter or other document produced by your computer's word-processing system. For most e-mail users, attaching a file is a simple matter of a mouse-click on the "attach file" button, and then selecting the file which you wish to attach.

When your e-mail message is ready to be transmitted, and after you have logged on to your service provider, the message may be dispatched simply by a mouse-click on the "send" button. Within seconds, a message will flash up on your screen indicating that the e-mail has been sent, and you may then log off.

Receiving e-mail

When you set the "options" for your e-mail software, one of the available choices is to check automatically for incoming e-mail each time you log on to your service provider. If you do not choose this option, the alternative is to select the "check incoming e-mail " function at any time when you are logged-on to your service provider.

Whether you choose to check for incoming mail automatically or manually, the incoming messages will be transferred to a "file" or "folder" within your own computer's memory. Your e-mail software (such as Eudora) will then flash up a message to tell you that you have incoming e-mail, and provide you with a list of the new messages received, showing the name of the sender and the "subject" of the message. You can then log off, allowing you to read or deal with incoming messages without continuing to pay for connection time with your service provider.

One of the problems with e-mail - like all other forms of communication - is that it is sometimes used to distribute advertising bumph. But it is always simple to "trash" unwanted material immediately.

Other incoming e-mail can be dealt with in a variety of ways. You can read it on your computer screen; you can store it in your computer's memory; you can print out a "hard copy" on your computer's printer; you can even re-transmit it, via e-mail, to another addressee. The last alternative may be particularly attractive to solicitors who maintain the practice of copying correspondence to their clients.

Transferring files

The simplest e-mail message consists of nothing more than the sender's e-mail address (and real name, if that "option" is included), the e-mail address of the intended recipient, a brief description of the subject and a short message typed into the e-mail software programme (such as Eudora). This is rather like the ubiquitous "fax cover sheet". However, the great advantage of e-mail is the capacity to attach other files to an outgoing e-mail message, and to receive other files with an incoming e-mail message.

Let us say that you have a lengthy document which has been prepared on your computer's word-processing programme. When you prepare your outgoing e-mail you can simply "attach" the file containing that document to the outgoing e-mail. It need not be retyped or converted into another format - that is done automatically by your e-mail software. Nor is it necessary to print out a "hard copy".

Similarly, incoming e-mail may include "attached" files. Such a file is then recorded at an appropriate place in your computer's memory, where it can be accessed after you have logged off from your service provider.

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If it is a word-processing file, it can be accessed using your own word-processing software. If it is an accounting file, it can be accessed from your computer's own accounting software.

The benefit of transferring files in this way is that the recipient can deal with the file as if it had been created on the recipient's own computer. Let us say, for example, that the file comprises a draft contract using the sender's word-processing system. The recipient can, of course, print out "hard copy", or read it on the recipient's own computer screen. But more than that, the recipient can make corrections, including insertions and deletions, just as is the document had been created using the recipient's own computer. And, if necessary, the corrected or amended version can then be re-transmitted by e-mail to the party from whom it originated, or to anyone else.

ADVANTAGES OF E-MAIL

At an earlier point in this article, it was predicted that most lawyers will be using e-mail as a regular means of communication within three years and possibly less. That prediction is based on the fact that e-mail offers the following advantages over other forms of information transfer.

Speed

The best facsimile machines on the market transmit documents at speeds of about two A4 pages per minute. As already mentioned, a computer equipped with the fastest available modem can transmit documents at a speed of about 40 pages per minute.

Transmission by e-mail is not, however, instantaneous. When you send an e-mail from your computer, it travels first to your service provider's computer; then to the addressee's service provider; and then, ultimately, to the addressee. It sometimes happens that the sender's service provider does not have a direct link with the recipient's service provider, so that the message must be channelled through a common connection with a "third party" service provider. Although all of this occurs very quickly, it may take half an hour or longer for the message to reach the addressee's "mail box" in the computer of the addressee's service provider. However, something like 95% of all e-mail messages are delivered to the addressee's "mail box" within 20 seconds.

At that stage, the speed with which the message is received by the addressee depends entirely on the frequency with which the addressee checks incoming mail with the addressee's service provider. But if the message is urgent, the addressee can be notified by telephone (or even by fax) to check in with his or her service provider.

Cost

While it may therefore take slightly longer for an e-mail message to reach its destination than a facsimile message, actual transmission times for sending or receiving an e-mail message are much faster than transmission times for sending or receiving a facsimile. And in any event, to send an e-mail anywhere in the world, you need only make a local telephone call to your service provider. For those reasons, e-mail transmissions are much cheaper than facsimile transmissions. That is particularly so in the case of lengthy documents, and especially when lengthy documents are being sent overseas. To send a 100-page document by fax to an overseas destination will ordinarily involve an ISD call taking 20 minutes or longer. The same document will take less than three minutes to send by e-mail, involving only a local telephone call.

There is, of course, the added cost of the service provider's fee. But those fees have reduced dramatically in recent months. The service provider used by the contributer of this article ("The Hub") has a range of prices, starting with $10 per month for 6 hours' usage, and going up to $60 per month or ($480 per year) for 80 hours' usage per month. This is remarkably inexpensive when you consider that - if your modem has a baud rate of 28,800 bps - you can transmit something like 15,000 pages of text in six hours' "on-line" for only $10.

Some service providers advertise even cheaper rates. However, it is a good idea to seek expert advice - or at least to "ask around" - before opening an account with a service provider. Apparently cheap connection fee can escalate enormously if the service provider charges a high rate for excess usage above the agreed number of hours per month. And what may appear to be a cheap hourly rate may turn out to be quite expensive if the service provider does not have the most modern technology: for example, a fee of $2 per hour paid to a service provider which is only capable of handling transmissions at an effective rate of 9,600 bps is the effective equivalent of $4 per hour paid to a service provider which handles transmissions at an effective rate of 19,200 bps since it takes twice as long to send and receive e-mails and other Internet communications. Moreover, one will ordinarily be looking for a service provider with whom one is able to establish a long-term relationship, since your "mail box" with a particular service provider will become your address for all e-mail communications and, should you need to change service providers at any stage, it may be just as inconvenient to notify your change of e-mail address as it would be to notify a change of street address, a change of post office box number, a change of DX number, or a change of telephone or facsimile numbers. What one should look for therefore, is a reasonable priced provider with up-to-date technology and a commitment to continuing in business in the long-term.

Efficiency

In most offices, sending a fax involves preparing a document on the word processor, printing out a "hard copy", and then feeding the "hard copy" into the fax machine. That all takes time.

Some offices have the facility to send a fax directly from a computer. That is less time-consuming; but it is even quicker and cheaper to send the same message by e-mail. Moreover, e-mail transmissions, unlike fax transmissions, never suffer from the problem of the recipient's number being engaged - which not only wastes time and therefore money, but can also be very frustrating.

E-mail is also more efficient for the recipient. With a fax machine, you do not generally get the chance to choose when you will receive a fax, or to order the priority with which facsimile transmission are received. Once the sender's fax machine makes contact with your fax machine, there is little that you can do to prevent your fax machine being tied up for the duration of the incoming fax, even if it is a non-urgent 50 page fax, while you are desperately waiting to send or receive a short and urgent fax.

Once you have received e-mail from your service provider you can choose when, if and in what order you deal with incoming messages. At the most, you should only ever have to wait a few seconds while receiving incoming e-mail, before sending or receiving an urgent transmission.

Security

Standard e-mail messages are no more or less secure than fax messages. Telephone lines can be tapped, and an electronic transmission over telephone lines can be intercepted, whether by fax or e-mail.

There is also the risk, with e-mail messages, of unauthorised access to your "mail box" in your service provider's computer. However, that risk has been minimised, with most service providers using passwords for access to subscribers' mail boxes.

However, if you are concerned about security, e-mail offers the capacity to encrypt messages. In fact, most messages sent by e-mail are encoded, but they are usually encoded using a standard code (such as "MIME", "UUencode", or "Binhex" or "Base 64") to convert the message into binary format for transmission, and to reconvert it when it is received at the other end. But other forms of encryption are available, which can

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virtually guarantee the security of your transmissions. (Indeed, rumour has it that the FBI is seeking to ban the use of some forms of encryption software because the code is unbreakable. This is a matter of concern to law enforcement authorities, as the encrypted e-mail is being used by paedophiles to transmit "kiddy porn" across the Internet. However, the same technology provides a high measure of protection for those who have a legitimate reason to maintain the confidentiality of their communications.)

Some people are concerned that, once their computers are connected to the Internet, it will be possible for "hackers" to get into their computers and read or download confidential material. That is pure science fiction. Computer hackers do exist, but they can only work with computers which have a permanent connection to the Internet, or which are set up automatically to answer incoming calls via a modem. Generally, hackers use their talents on the computers of big corporations, government bodies and educational institutions which maintain permanent connections to the Internet - which operate, in effect, as their own service providers. If you have an account with a service provider, you are connected with the Internet only when you are logged on to your service provider - and, generally speaking, that should only occur when you are actually using the connection with your service provider, either to send or receive e-mail, or for some other purpose. As soon as you log off, your computer is entirely isolated from the Internet, and there is absolutely no risk of a hacker being able to make a connection with your computer, let alone being able to read or download information stored in your computer's memory.

Reliability

E-mail transmissions are no less reliable than facsimile transmissions, and in one respect are much more reliable.

Unless a fax is sent directly from a computer, it depends on "hard copy" being fed into the transmitting fax machine. Common experience shows that this system is not perfect, as pages are frequently missed. It is quite impossible to miss any part of an e-mail transmission.

The only real problem concerning reliability of e-mail transmission is in ensuring the correct address of the recipient, which is rather like dialling the correct number on your fax machine. However, if you send an e-mail with an incorrect address, then, unless the address you give happens to be the correct address for another e-mail subscriber, your service provider will send you a message indicating that the designated addressee could not be found.

Versatility

The great benefit of e-mail, as compared with fax, the ability to send a working file to the recipient, which the recipient can then modify on his or her own computer. The advantages of this may be self-evident, but a few specific examples should be mentioned.

Court documents, such as pleadings, are often prepared by counsel and then sent either by fax, DX or post to the counsel's instructing solicitor. Unless the document has been prepared in final form, the instructing solicitor must then go through the time-consuming and wasteful process of having the document re-typed in his or her own office. That is particularly so, if the draft prepared by counsel includes "blank spaces" where additional details are to be inserted by the instructing solicitor. But if the document arrives by e-mail, it can be immediately taken into the instructing solicitor's word-processing system; any necessary insertions or changes can be made; and the document can then be produced in a final form without any re-typing.

A similar process can be utilised where, for example, a solicitor prepares a letter for the client to send on the client's own letterhead. If the letter is sent by facsimile transmission, the client will have to get it re-typed. If it is sent by e-mail, it will then be a simple matter for the client to produce a final copy on the client's own stationery.

File transfers are also extremely useful where the terms of a contract are being negotiated. Solicitor A produces a draft, and e-mails it to solicitor B. There may be some details which remain to be inserted, such as dates or real property descriptions. Solicitor B can have any insertions made in his or her office. And if Solicitor B is not entirely satisfied with the drafting of the document, solicitor B can revise any parts of the draft before e-mailing it back to solicitor A. Then, when both solicitor A and solicitor B are satisfied with the final draft, each of them can print out a "hard copy" and have it executed by their respective clients. The efficiency of this system will be apparent when solicitor A may be located in Brisbane but solicitor B may be located anywhere else in the world.

E-mail also provides an invaluable resource for a solicitor who is absent from his or her office. With a lap-top computer and a modem, the solicitor can receive a document prepared in the office; can review that document "on screen" or, if desired, print out a copy; can make any necessary alterations; and can then re-transmit the document to his or her office. By this means, a solicitor who is doing business in New York or London - or one who is holidaying in Fiji or the Caribbean - can check and correct correspondence and other draft documents as simply as if the solicitor was sitting in his or her office.

Storage and Retrieval

Any other form of incoming written communication - whether by mail, DX or facsimile transmission - is received in "hard copy". Unless your office is equipped with a scanner to place the hard copy on your computer, you have no alternative but to keep the hard copy on file for as long as it may be needed as a record of incoming communications. Indeed, unless your fax machine is of the "plain paper" kind, you will no doubt already have adopted the practice of photocopying incoming fax transmissions so that your file contains a permanent copy of incoming communications.

If you feel the need to have hard copy of incoming e-mail messages for your file, there is no difficulty in printing out a copy. But, unless you need a hard copy, incoming e-mail messages can be stored on your computer - either in the "hard drive" or on a "floppy disk" - in exactly the same way that you store documents produced on the word-processing system in your office.

It may be many years before lawyers achieve both the practical and environmental benefits of a "paper-free office". But the time will come when most, if not all, of our files are stored on electronic media.

The ability to store and retrieve incoming e-mail messages on your computer not only saves the need to keep a "hard copy" on file as a record of the communication; it also makes it very much easier to re-use the same information on subsequent occasions. Take the situation where you have been involved in negotiating and drafting a complex commercial agreement on behalf of a client. Ultimately, a contractual document has been prepared and sent to you by the other party's solicitor. Months or years later, a similar problem may arise with the same or a different client and the contract which was negotiated may offer a good starting point for the drafting of a new agreement. If the only copy you possess is a "hard copy' received by post, DX or facsimile transmission, you might take a photocopy and then get to work making the necessary emendations with a view to having your secretary, in due course, re-type the entire document. Obviously it is very much more efficient to have a copy "on disk', which can be altered where necessary using your computer's word-processing software.

DISADVANTAGES OF E-MAIL

While it is suggested that the benefits of e-mail as compared with other systems of information transfer greatly outweigh the

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disadvantages, there are a few problems which need to be considered.

Cost

As already observed, e-mailing documents can work out to be very much cheaper than faxing documents, if the system is used properly. The only risk is that cost can be increased enormously if one remains "logged-on" to one's service provider longer than is necessary.

To remain logged on to a service provider after sending or receiving rather like leaving the telephone off the hook after an ISD telephone call. It is a silly - and potentially expensive - thing to do. It can be prevented, by adopting rigorous office procedures to ensure that connection time to a service provider is limited.

Some software systems include a kind of "dead man's handle" which automatically terminates the connection to the service provider if nothing is transmitted or received for a specified period of time - say, five minutes. It is useful to check whether your software includes such a facility and, if so, to select the "option" in your software that minimises the period of inactivity which results in automatic termination of the connection.

Breadth of Cover

Very few lawyers, in either branch of the profession, presently have e-mail facilities. Until that changes, e-mail will not take off as a means of communication between lawyers. But that will change in time; and probably a fairly short space of time.

One of the arguments which was raised in that debate as to whether the contributor's chambers should be equipped with a facsimile or telex was that, at the time (some 10 years ago), so few solicitors - let alone barristers - had facsimile machines. In the current edition of the Queensland Law Society diary, only 17 out of more than 650 firms in Brisbane - about 2½% - do not list facsimile numbers; and the position is similar in provincial centres and even country towns. According to the same source, there are now only three practising barristers in the entire state who do not have access to facsimile machines. There is no immediately apparent reason for doubting that a similar phenomenon will occur when the lawyers of this state become aware of the advantages of using e-mail.

In the meantime, solicitors will find that many of their clients - particularly commercial and institutional clients - already have e-mail access. Indeed, at one level, e-mail has become the most "accessible" form of communication: heads of state, movie stars, pop musicians and other "celebrities" - who would not dream of allowing their telephone or fax numbers to become public knowledge - can be communicated with via easily obtainable e-mail addresses. At a more practical level, many people in the scientific and academic communities, who may be difficult to reach on the telephone, can be promptly and assuredly reached by e-mail. Because civilian (as opposed to military) use of e-mail and Internet facilities originated on university campuses, it has taken on much more quickly among those who lecture at - and those who have recently graduated from - such institutions, particularly in the scientific disciplines. In some people's view, it is arguably the greatest advantage of e-mail that it gives the opportunity to contact people who are otherwise inaccessible, as many experts in different fields allow their e-mail addresses to be public knowledge and invite correspondence on a range of topics.

For all that, your e-mail facilities may not get a good deal of use for day-to-day communications in the next few months, and perhaps the next couple of years. But once it does catch on, it will spread as quickly - and probably more quickly - than either fax machines or cellular telephones.

System Compatibility

If you are sending a file containing (for example) a word-processing document, you will want to know that the file is compatible with the word-processing system used by the recipient. If, for instance, you use WordPerfect for your word processing, the file may not be capable of being read if the recipient's system uses MS Word.

The problem is not, however, such a big one as it may seem. That is because most modern word-processing systems contain facilities for "converting" documents prepared using other word-processing software. Thus, the latest version of WordPerfect (version 6.1) will convert and read documents prepared in earlier versions of WordPerfect, as well as documents prepared using a variety of other types of software) including Displaywrite, MS Works, Excel, Lotus, MS Word, Quattro Pro, and others).

Generally the biggest problem has been in exchanging documents between IBM compatible ("DOS") and Apple Macintosh computers. But most Apples now have a programme, known as "PC Exchange", which converts documents from IBM compatible computers into a format which is "readable" by Apple computers.

If in doubt, it is advisable to check with the intended recipient before transmitting a file by e-mail. If, for example, you are using WordPerfect version 6.1 and the recipient uses WordPerfect version 4.2, the recipient may not be able to read your document. But the problem can be overcome, since the system in your computer - WordPerfect v 6.1 - can convert a document into WordPerfect v 4.2; and so long as the conversion is done before the file is e-mailed, the recipient will have no difficulty in reading and amending the document using WordPerfect v 4.2.

Unread E-mail

One of the big differences between a document sent by fax and one sent by e-mail is that the fax will automatically emanate from the recipient's machine when it is received, at any time, of the day or night.

E-mail will remain in the "mail box" of the recipient's service provider until the recipient logs on and checks for incoming mail. If the recipient is inefficient, it is quite possible for e-mail to remain in his or her mail box for days, or even weeks, before it is collected and read.

The solution to this is quite simple. Normally when you send someone e-mail, you will telephone them (or have your secretary telephone their secretary) to warn that an e-mail message is on its way. If, for some reason, telephone contact is not possible, for example, because you are sending e-mail overseas where it is the middle of the night, you might consider sending, at the same time, a short fax indicating that the recipient should check for incoming e-mail.

The same applies where e-mail is being sent to a member of the firm, or to one of the firm's staff, who is staying at an interstate or overseas hotel. Given that some foreign hotels charge up to $5 per page for incoming faxes, you may prefer to send your message bye-mail, particularly if the recipient wishes to modify the document on a lap-top computer. In those circumstances, again you might consider sending a short fax to the recipient's hotel, advising the recipient to check for incoming e-mail.

Original Documents

It seems unlikely that e-mail will ever replace facsimile transmission entirely. One reason for that is that you can fax an original document (including signed documents), a document which is handwritten, plans and drawings, and even photographs. The technology already exists by which such documents can be "scanned" into your computer, and then e-mailed. Even high quality colour photographs can be scanned in a format known as "gif" or "jpeg" and sent anywhere in the world. But at the present time, that technology is too expensive for practical purposes.

For the time being it is envisaged that facsimile machines will continue to be used for sending documents which did not originate in the sender's computer. In time, when the cost of scanners comes down, that may change.

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Computer viruses

It is possible for a computer virus to be transmitted via e-mail; but it is very unlikely.

A computer virus (for the uninitiated) is a type of computer programme which, once it has infected your computer, can interfere with the computer's operation, destroy information recorded on your computer, and do a variety of other very undesirable things. There are some thousands of computer viruses in existence (a figure of 6,000 is often mentioned) throughout the world. Most of them are designed to conceal themselves within your computer, so that they cannot be readily relocated and removed. Some viruses are designed to lay dormant for extended periods of time, so that your computer may be infected with a virus - and may even be contagious - without your knowing about it.

Computer viruses, like biological viruses, can only be transferred by some form of contact. That usually happens when you load a programme onto your computer, either via a disk or through an electronic connection. The programme which you "download" may appear to be perfectly innocent; but it may have concealed within it a virus which can cause untold damage to your system.

The risk of contracting a computer virus by e-mail is relatively small. Most viruses attach themselves either to "executable" or "zipped" files - that is to say, files which have file names ending with the abbreviation ".exe" or ".zip", which contain software programmes. It is very unusual for a virus to be contained in a data file, such as a file comprising a document prepared on a word-processor.

Although the risk of computer virus infection via e-mail is slight, there are some precautions which can be taken. There are some very good virus-protection software programmes on the market. Such programmes can be used to check (or can be set automatically to check) all incoming e-mail to detect and remove all known viruses.

Even with the protection of such software, there is no absolute guarantee that all viruses will be detected and removed. That is partly because computer viruses, like biological viruses, are mutating all the time, and new ones are being created. Even the best virus-protection programmes only claim to detect and remove about 95% of all known computer viruses.

The practical reality is, however, that you are very unlikely to contract a computer virus merely from receiving e-mail transmissions. If that is all you use your modem for, there is a very high probability that you will never be infected. And if your system has a good virus-protection programme installed, you can be almost certain that you will never have a problem.

Internet Access

Since the focus of this article is on the use of e-mail, it is not proposed to refer at length to other electronic information-transfer facilities which are available. However, in dealing with the disadvantages of using e-mail, some mention should be made of the fact that, when you open an account with a service provider, you may also obtain access to other parts of the Internet.

To describe that as a disadvantage is a little unfair, since the Internet offers a wealth of information, including information which can prove very useful to practising lawyers. But it also carries with it some problems.

By using your modem to send and receive e-mail, you are actually on the Internet; but only a very small part of it - it is a bit like going to the capital of a foreign country, but only visiting the main post office or the telephone exchange. Like a foreign capital, the Internet has many interesting "sites", which are semi-permanent displays of information (both documentary and pictorial) covering a truly incredible range of subjects. To access such sites, one uses the "Web browser" software (such as "Netscape"), which will probably be included in the software package supplied by your service provider.

One problem is that the amount of time spent "on line" when using a "Web browser" - when "surfing the 'Net", as it is called - is very much longer than the amount of time required to send or receive e-mail. Whereas it may take only a few seconds to send or receive an e-mail message, it is not unusual to spend many minutes, or even hours, searching for and downloading relevant information from the Internet.

"Surfing the 'Net" is rather like dipping into an encyclopedia: you will come across a lot of very interesting information, which may have little or no connection with what you set out to find. It is very easy to lose track of time in this way, and to run up a huge account with your service provider while doing so. It is even easier for your staff to lose track of time while "surfing the 'Net", since they are not paying for it.

The Internet also contains some "nasties". It is said to be the world's largest repository of pornography, some of it being of a particularly gruesome kind. Since the Internet knows no international boundaries, it has proved almost impossible for law enforcement agencies to prevent the use of the Internet to distribute objectionable material.

There is also a greater risk of contracting a computer virus from utilising other Internet functions than there is from merely receiving e-mail transmissions. The risk is still a small one, if you use a virus-protection programme, and especially if you avoid downloading "executable" or "zipped" files. But the risk is still a very real one.

If you wish only to use your computer and modem for sending and receiving e-mail, you may be able to arrange an account with a service provider which is limited to those services. Or you can achieve the same result by not installing (or removing) the "net browser" - such as "Netscape" or "Spry Mosaic" - which is included in the software supplied by your service provider.

However, to cut off all access to other parts of the Internet is unnecessary, provided that you are able to exercise reasonable control over the use of computer facilities in your office. Staff should be expected to record, and to be able to explain, the length of time which the spend "on line". And if you are concerned about the possibility of your computer being used to view cyber-porn, and especially if children have access to your computer, there are programmes available which are designed to prevent the use of a computer for that purpose, while allowing access to all other sites on the "Web".

CONCLUSION

E-mail can save lawyers time and money, and can increase their productive efficiency. For those reasons alone, it is inevitable that e-mail will - in the near future - become a standard method by which lawyers communicate with one another.

While having some disadvantages, the technology offers benefits which far outweigh those disadvantages. It is fast, cheap, efficient, reliable and - above all else - versatile.

It is not suggested that e-mail will completely replace facsimile transmissions, at least in the near future. Facsimiles will continue to be used both for transmitting original documents (including handwritten or signed documents, plans and drawings, and the like), and for short, urgent, written communications. But, for most other purposes, one can confidently predict the era of facsimile communication giving way very rapidly to the era of e-mail communication.

Like all new technologies, reduced cost and increased efficiency will make e-mail even more attractive in years to come. Legal practitioners who do not prepare themselves to take advantage of this technology are at risk of being left behind. By the dawn of the new century, - and perhaps sooner - a legal practitioner who does not have e-mail facilities will be as isolated and out-of-touch as is a legal practitioner today who does not have access to a facsimile machine.