Courts and Information Technology

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The Information Superhighway, the name coined by US Vice-President Al Gore in the early 1990s for the emerging high-speed global communications network capable of carrying voice, data, video and other services around the world, has become a reality. Its very existence has triggered the 'explosion' in technology, which now affects almost every aspect of our daily lives.

We currently enjoy, indeed take for granted, new types of services and a higher quality of service such as those provided or facilitated by the information superhighway and soon move our custom elsewhere if our expectations are not met. Regrettably, the courts are not keeping pace with such developments. Urgent and concerted attention is needed if an adequate quality of justice is to be made available to the community.

A daunting challenge!

Although it is fair to say that, in the past decade, the court systems in Australia have utilised information technology (IT) for a variety of limited purposes, judicial officers and court administrators have, in the main, not perceived technology as a major agent for change. For example, the Internet is still regarded by many as a novel means of gaining access to several well-known legal data bases and use of E-mail is only now gaining momentum. Moreover, the planning vision has, in many instances, tended introspectively to focus, essentially, upon making existing administrative practices and procedures more rapid and efficient, without significantly changing the substance of them.

The purpose of this article is to suggest that, coming ready or not, the courts will, in the very near future, have to embark upon what will be perceived by many to be radical, if not daunting, new methods of electronic operation. We would argue that, having regard to what is rapidly occurring within the business world, it is imperative that the courts address their future likely requirements and strategies with a sense of considerable urgency. There is a growing public expectation that government, including the courts and related agencies, should operate more like the private sector - by providing increased choice in the nature and delivery of services and being accountable for the achievement of agreed service levels. The community is demanding better quality and faster delivery of services at lower cost and will not remain silent if this is not forthcoming.

The need for change

We take, as our commencement point, that the sole *raison d'etre* of the courts is to provide a specific, highly specialised range of services to the community. If the courts do not do so in a manner which keeps pace with contemporary requirements, they will run a grave risk of being totally out of step with the reasonable expectations of the main users of the courts and rapidly become obsolete in their own processes. As was recently said by the Chief Justice of Singapore, the community is steadily becoming accustomed to the high quality services that technology can provide. Multimedia technology and the like will inevitably generate changes in public expectations of how the justice system and its constituencies should operate.

Australians by nature are one of the fastest adopters of technology. For example, the total volume of Internet traffic crossing Australia's borders will soon surpass the total volume of all overseas voice traffic. This growth has occurred in just a few years and has confounded the telecommunications planners and experts. Australia also has one of the highest per capita ratios of personal computers and networks. Governments of all persuasions are recognising the importance of the rapidly growing information services industries and are themselves investing heavily in technology to leverage new industries and local economic growth. Computing is increasingly becoming integral to a school's curriculum and teenagers are now teaching their parents how to come to terms with it.

One need only to reflect upon the recently introduced electronic airline ticketing system, the current widespread use of E-mail, and the many areas of the business, finance and banking sectors which now, routinely, operate almost entirely 'on-line', to realise how arcane many of the existing court practices and procedures are becoming.

Until relatively recent times the immaturity of the technology has been one seriously constraining factor. However, hardware and software systems are now highly reliable and fault-tolerant, network and telecommunication standards and technology currently support secure and accurate electronic exchange of information between organisations. Another previously constraining factor, the cost of the technology, is today much less an issue, since prices continue to fall in real terms and processing power is annually improving by a factor of two to three. Applications software, still expensive and risky to develop, is increasingly becoming available 'off-the-shelf' — offering expanded functionality, on-going support and periodic enhancements.

It is in the context of all of the above that we contend that, within the space of the next five years, the courts will need to undergo dramatic change in relation to their internal administrative systems, their mode of judicial operations and the manner in which they physically relate to their client base, if they are to retain any semblance of efficiency and cost effectiveness and also, within continuing resource restraints, provide the service which will be demanded of them by the community which they serve. The real question is not whether these changes will need to take place, but *how rapidly* the courts will be compelled to accommodate them.

Future directions

Against that background we would like to indulge in the luxury of some crystal ball gazing and also reflect on some implications for both judicial officers and court administrators.

We would confidently predict that within the next five years:

- due to the widespread adoption of electronic means of communication, the vast majority of communications and data transmission at all levels of business, commerce and public administration will be by on-line methods. Organisations and individuals will increasingly deal with one another through electronic means, using standard interfaces and protocols. Fundamental to any business relationship will be the compatibility of their respective computer systems;

- voice recognition technology, already approaching near-continuous speech facilities, will provide a relatively simple means of data entry alternative to the keyboard;

- video conferencing will become a routine and cost effective method of distance communication;

- the development of flat screen technology and other sophisticated hardware will permit IT facilities to be provided in courtrooms and elsewhere with a minimum of intrusion into the normal operational/working physical environment;

- computer graphics will readily enable reconstruction of events or demonstration of physical effects on screen, or as virtual reality;

- application software programs to implement the various developing technologies will progressively become more and more user friendly, utilising the 'Windows' environment;

- quite sophisticated applied research tools will be developed incorporating so-called 'artificial intelligence' features, which will assist the judicial officer to analyse legal issues and direct attention to the most relevant published authorities on the subject on a prioritised basis, somewhat like the diagnostic aids currently available in the medical sphere; and

- the existing downward trend in relative cost of IT facilities will continue, to the point at which the use of E-mail and voice-mail will be as routine a means of communication as the telephone now is. It will be common for even private households to have some form of computer connected to the Internet and for members of the public, routinely, to perform a wide range of business and financial transactions by electronic means.

The pressures of a changing environment

What will be the practical implications of these developments for the courts?

There can be no doubt that there will be a steadily increasing demand for the courts to keep pace with the adoption of technology by legal firms and other agencies having business with them. There will, we suggest, be a parallel requirement to provide technology which facilitates public access to information about the courts, the electronic payment of fees and fines and the promulgation of information concerning court activities and processes. Relative cost and efficiency considerations will combine to demand an increasing use of technology in the actual conduct of trials. The kinds of technology currently used for only the very largest of actions will become common-place in courtrooms for all long and complex trials.

Even as we write there are steadily increasing trends, in some courts, away from the taking of oral evidence in chief in the traditional manner, in favour of presentation of documented or video depositions. Existing practices and rules of court, which are based on the taking of all evidence orally, with the witness in the courthouse, are increasingly coming under critical scrutiny, as is the requirement that all material must be presented in paper format.

If the work of the courts is to keep pace with 'outside' developments and provide an effective and economic service, it will plainly need to improve both its internal business practices and the manner in which it deals with its clients.

An interfaced justice and legal system will link the various justice agencies, law firms, courts and other organisations having an interest in case outcomes (eg the media, credit agencies and the like). Each will operate sophisticated, fully-functional, integrated systems, which focus on their respective core undertakings, but link with one another by means of electronic data transfer for specific purposes. For example, in the law firm, we would expect that case data would be captured on-line as a by-product of normal business practices and would also be fully integrated with the practice accounting system. Initiation of proceedings by electronic lodgment of process would involve extracting the relevant data and communicating it to the courts. The electronic lodgment transaction itself would automatically create the court record and an acknowledgement transaction would confirm the fact of the lodgment, its date and time and the case number assigned. Fees would be paid via electronic funds transfer means, or by debiting an account managed by the courts. Equally, outcomes of proceedings will be achieved through direct electronic entry in the courtroom, as orders are made -

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with all necessary documents to give effect to them generated as automatic by-products and relevant information also being passed on to justice agencies or other organisations as appropriate.

The use of expensive and environmentally unfriendly hard copy materials will become minimal within the courts environment, as it already has in many areas of commerce and business.

It is a reasonable assumption that the current trend towards increasingly complex civil and criminal litigation will continue. Just as the information superhighway will facilitate global transfer of funds and data, leading to the possibility of sophisticated civil and criminal wrongdoing, so also will there be a need for advanced tools to store, sift, track and present relevant evidence in an accurate and understandable fashion.

Implications for the courts

It is fair to say that, within existing courts systems, there is already evidence that some developments of this type are underway. However, we would suggest that, in most instances, there will need to be a quantum leap to come to terms with the demands of the immediate future. Moreover, certain developments will give rise to a need for legislative action to facilitate their implementation. At the first instance, trial level, obvious implications are the need for:

• all courtrooms ultimately to be equipped with computer terminals, laser printers and other devices to handle all information activities electronically;

• all courts to be serviced by flexible and easy-to-use litigation support programs, which interface with real time reporting facilities and support the taking of evidence by video link; and

• all courtroom staff and judicial officers to become computer literate and be given adequate, ongoing, in-service training to enable them to operate effectively in the new environment.

At the appeal level, appeal books will cease to be hard-copy documents and will be in electronic form, capable of easy navigation by use of modern software tools. Given that much of the material which comprises the appeal book has its origins in the court system, the concept of a 'virtual' appeal book is not too far-fetched. Transcript and exhibits related to the trial, already a part of the courts' electronic files, will be accessible via hypertext links thus removing the need for these to form part of the materials lodged. In fact, the only 'new' material actually needing to be filed electronically will be the grounds of appeal. On leave being granted for an appeal, the system will automatically advise the original trial judge of the fact of the appeal. Each appellate judge will be able to access all relevant material, both in and out of court, through appropriate software. The decision will be available in electronic form at the moment of its delivery, with advice automatically being sent to registered interested parties, including the original trial judge.

There is also an emerging trend for de-criminalisation of certain minor traffic matters, with penalty enforcement processes being better handled through normal debt recovery means. For example, if a court-imposed fine is not paid into revenue, then this could lead to direct licence or registration suspensions and a recording of the non-payment and the outstanding debt in a manner similar to any other debt, thereby reflecting in credit-worthiness ratings and the like.

The implications for the courts and the wider criminal justice system are far-reaching, but technology can greatly assist with the whole process of change.

It will at once be appreciated that developments of the type above outlined will carry with them a need to consider appropriate enabling legislation and rules of court. These will, potentially, have to embrace topics such as:

• the means of authentication of court processes of all types issued by the auto-print process;

• the replacement of the traditional hard copy affidavit with some form of electronically authenticated declaration having the same legal effect;

• the formalisation of processes related to remote applications to the court, (where necessary) the mode of administering of oaths or affirmations to witnesses (whether within or outside the jurisdiction), for the purposes of giving evidence by video link, and a definition of the manner and circumstances in which it is permissible to give remote evidence by video link in civil and criminal cases;

• the manner and circumstances in which evidence by electronic charts, summaries from data bases and interactive graphics output, or virtual reality reconstructions or demonstrations, may be resorted to. (Some attention has already been given to this type of problem in countries such as the Republic of Singapore);

• the enabling of processes such as bail applications and reviews, formal arraignments and other pre-trial activities by video link, without the accused and/or counsel physically being in the presence of the presiding judicial officer;

• the creation, maintenance and archival of electronic files to replace hard copy documentation as the court record;

• the authorisation of service and the giving of notice of court processes by E-mail, subject to appropriate safeguards;

• the creation of single electronic files related to criminal matters, which embrace all processes from charge to ultimate disposal (including appellate procedures), into which, at the higher court level, the prosecution will electronically input informations and/or lodge notifications such as *nolle prosequi's;*

• a comprehensive revision of all statutory procedures related to the conduct of litigation (especially in the criminal jurisdiction) to enable electronic procedures to replace those currently associated with use of hard copy documents; and

• facilitating the proof of the court record and process outcomes by appropriately authenticated computer output.

It is not within the scope of this paper to discuss in depth other important ancillary aspects such as electronic legal research facilities, litigation support programs and associated 'high tech' courtroom facilities to manage long and complex cases, or the case management software requirements to enable courts efficiently to dispose of their case loads. These are major aspects which must form integral segments of any overall administrative system. All that need be said is that massive developments have already occurred in all of these areas in the space of the past two years. It is anticipated that a range of commercially produced applications to meet a number of these requirements is steadily emerging and will, no doubt, improve in sophistication and function very rapidly over the next year or so.

The foregoing resume is, necessarily, a fairly superficial treatment of what is, potentially, a vast subject area.

Issues for the judiciary

A move towards this new technological approach carries with it a need to reflect upon a number of important practical issues of potential concern to the judiciary, salient amongst which are:

• the technology will need to be of a speed and degree of simplicity which allows in-court data input to proceed without unduly inhibiting the normal speed of disposal of business or intruding, in an undesirable fashion, into normal court processes;

• an acceptable means of electronic signature and verification of documents will need to be developed. The technology already exists, by data encryption using private and public 'keys' and like facilities; and we understand that legislation has already been enacted in this regard overseas;

• judicial officers will need to be provided with a single interface facility, which automatically determines the best manner in which to display file data, no matter what format it is filed in. This will need to be capable of displaying work processing, spreadsheets, graphics, video and imaging files, to accommodate the range of situations that could arise;

• a capacity to use imaging or scanning technology will be a routine requirement to accommodate receipt of hard copy exhibits and documentation and permit later rapid retrieval of them;

• careful consideration will need to be given to the development of a

'navigation' system, which is simple, meaningful and efficient, to enable judicial officers to easily retrieve, browse and view relevant information in the electronic case file. Considerable work has already been done in this area;

• in terms of legal services, Australia is steadily becoming a national 'market' with solicitors and counsel regularly operation on a basis which renders State boundaries somewhat irrelevant. It will therefore be vital that the present tentative moves towards adoption of common civil procedures and electronic standards be pressed on with as a matter of urgency; and

• above all else, adequate training programs for the judiciary and their staff will be essential before actual commissioning of new technology. In this regard it must be accepted that there is, on the part of many, a strong ingrained resistance to change, coupled with some degree of fear of inadequacy in dealing with information technology. This will only be overcome by adequate pre-education programs, which lay such apprehensions to rest and demonstrate the practical advantages of new approaches.

An urgent imperative

The scenario which we portray is not something akin to a Jules Verne story, which may not materialise until the distant future. The pressure to move in the direction discussed is very real, even now, and will become irresistible in the short term future. For the courts, the embracing of it will be little less than a matter of practical survival.

A major practical difficulty will be to persuade many members of the judiciary and those responsible for resource allocation that urgent action is required now, to work towards the ultimate goals which we have identified. The lead time for implementation is significant and the training and re-education aspects substantial. Indeed a quantum change in culture is involved, in an area well known for its conservatism. At the end of the day, what is really involved is a fundamental issue of access of justice at reasonable cost. The courts cannot continue with manual and disjointed automated systems, which are inefficient, outmoded, expensive and out of step with what is happening in the community at large.

We conclude where we commenced. As Yong CJ recently pointed out:

"As the technology revolution unfolds, there will be implications for the judicial and legal system. Judges and lawyers will have to deal with countless new ways to acquire, receive and process data, contend with old information that is being expanded by the new and adjust to changing expectations. And, as society changes, so will conflict. The judiciary must take the lead in assessing technological and scientific advancements to ensure that the law can address the legal issues of tomorrow . . . which these changes will bring."

There is also great truth in the assertion of Professor James Dator that electronic technology will transform law and the administration of justice beyond anything we now know, see or understand. To adopt his words:

"Law and the administration of justice in the 21st Century, will no more resemble law and the administration of justice now, than present day institutions resemble those which existed when the courts were in the King's antechambers, and scribes wrote summaries of the proceedings with quill pens."

It will be well for us to recognise and adapt to the winds of change which are, even now, steadily gathering momentum.

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