The three (or four) C's

Kerry Webb

For the first column of the new year, I have been asked to look forward to what the Internet will offer us in 1996. Now, anyone who's brave enough to do this should be prepared for a faceful of egg, but it's worth a try. I will concentrate on the Australian environment, but with references to the rest of the world.

There are three c's in Internet services — *content, connectivity* and *computing*. And then there is the fourth 'c' — *the customers.*

Content (data, products, services)

1995 was the year that (at least in Australia) government and business discovered the Internet. 1996 will be the year that they work out what to do with it.

All state governments except NSW have a significant presence on the Net, but they are still mostly using at as a shopfront. What we'll see in 1996 is some serious information, some real publishing and some access to government services through the Internet. The federal election will give the Government an opportunity to use the Net as an effective means of communicating information about when and where you can vote, and how the count is proceeding after polling day. We'll certainly see some candidates and parties using Web pages as a way of advertising their policies and possibly getting some feedback on voters' perceptions.

Some of the Federal Government's initiatives will begin to produce tangible results. Specifically, there are projects funded by the Australian Vice-Chancellors Committee. There will be better indexes to Australian material through the use of Harvest, in a joint project headed by the Australian Defence Force Academy, and an improved listing of Australian electronic journals, maintained by the National Library of Australia. The Federal Government's biggest long-term contribution will be in developing metadata standards for information mounted on the Net. These standards will be the result of collaboration between all levels of government and a wide range of users, and will provide the basis for useable indexes. Most significantly, this is an area where librarians have a great deal to contribute, based upon their training and experience.

As for the business sector, there'll be plenty happening as soon as billing facilities become more acceptable. The private sector, like government organisations, is using the Net as an advertising medium and will continue to pursue this as the user population increases, but without the concept of 'public good' it will be concentrating on the commercial realities of selling products and services in a cost-effective way. Credit cards are being used on the Net at present, and probably more securely than when you buy by telephone or in a restaurant.

Finally, we'll start to see the beginnings of large-scale digitisation of the collections of cultural institutions — digital libraries, galleries and museums. Some organisations have made a start already, with limited exhibitions and samples of what they have to offer. Some will be free, some will require payment, and much will be displayed at a resolution which shows what is available.

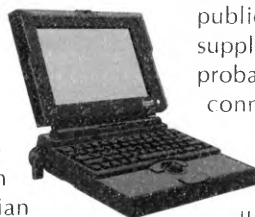### Connectivity (local, regional, global communications infrastructure)

There are many aspects to connectivity. First, there's the connection between your home or office to the local Internet Service Provider (ISP). Some organisations, particularly larger libraries can afford ISDN links at 64 Kbps or more, but most people use standard (and limited) telephone lines. Telstra has announced a reduction in ISDN tariffs, but it is not enough. John Howard announced his policy of an extension of ISDN services at prices that reflect underlying costs. A comparison with United States tariffs show just how expensive ISDN is in Australia — as much as ten times more expensive.

In 1996, the results of the major Federal Government projects CIN and EdNA will be evident. CIN will provide Internet facilities in public libraries (in addition to those being supplied by various state governments) and probably a better infrastructure for Internet connections for people living outside the major cities. Although EdNA continues to be difficult to define, it will make it easier for educational institutions at all levels to get Internet connections.

Telstra, which has come under fire for the speed of its overseas links, will be improving its performance in 1996 by putting in much greater capacity. The concerns of customers have been widely expressed and we have been told that they are well aware of the need to improve their responsiveness in this area.

Computing (browsers, servers, languages)

1996 may see Netscape being overtaken as the leading Web browser. Microsoft, having embraced the Internet more fully, is developing its own browser which may be supplied as a basic Windows product. If this happens, it will definitely eat into Netscape's customer base. More significantly for the Internet community, it will be another major player 'inter-

preting' the HTML standard in a way that will create extra work for web designers wanting to make their work accessible through a number of products.

There will be much more development of HotJava technology, which enables a browser to execute code as well as display text, graphics and sound. As with such new concepts, it is hard to imagine at this stage what the ultimate applications will be, but one possibility is that copyrighted material can be downloaded for reading only.

To appreciate the importance of this, remember that if an item is downloaded through a Web browser, that item is stored on the user's computer and can then be copied or manipulated at will, with no involvement from (or payment to) the publisher or creator of the item. The beauty of a HotJava application is that if an item is displayed within the browser, it is not 'stored' in any way that can be copied to a disk or to any other computer, which means that it can be used only in the session in which it is downloaded. In this way, the copyright owner is likely to make the material available at a lower price than if it were to be downloaded with an ordinary browser.

Customers (the reason that we're here)
Well, there will be more of them, which will lead to more people putting more information on the Internet, which will make it more attractive to more customers... They will have access from home, and from work, school and libraries.

They will need training in how to find things on the Net and how to behave once there. There is real opportunity for libraries here, both in providing limited introduction courses and in letting commercial trainers have the use of their facilities for more advanced instruction. There will also be a need for librarians to give advice on navigating the Net and to provide useful documentation to accompany the terminals in their libraries. Another opportunity for promoting libraries and librarians!

One last C: compulsory reading

On behalf of the Coalition for Networked Information, a team led by Clifford Lynch of the University of California is preparing a White Paper on *Networked information discovery and retrieval*. You will find it at http://www.cni.org/projects/nidr/www/toc.html

To quote from the draft:

This paper explores the current state-of-the-art in discovery and access for networked information resources, and ways in which the state of the art can be advanced. While the networked information environment can be interpreted broadly, we focus specifically upon the existing Internet as the host environment for networked information resources. The paper takes a perspective that is centred on the information user or consumers, rather than information creators, information providers or information managers; thus, our concern is not primarily with the management of information resources across time, for example, or with methods of publishing information in the network environment.

The paper recognises that the coming environment will comprise both free and for-fee information, and looks at the way that this mix of information streams will alter the existing mechanisms for discovery and retrieval of networked information. It also considers the development of software agents which will be able to interact with the information sources of the Internet, acting on the user's broadly-defined information needs.

This a seminal work. Don't miss it. ∎

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This column (with associated hyperlinks) has the URL of http://www.alia.org.au/alia/incite/articles/webb's-web.html.

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Contributions and suggestions for this column are always welcome. Please contact Kerry Webb at k.webb@nla.gov.au, or via the ALIA National Office, incite@alia.org.au.