Videoconferencing: A New Technology for Legislatures?

by Gary Levy

In recent years computer technology has revolutionized members' offices and legislative libraries. E-Mail, voice mail and fax machines have changed the way members communicate with each other and with the general public. Desktop publishing has transformed how documents are produced. The distribution of many printed documents will likely be replaced by data banks accessible by telephone or by CD-ROMS capable of holding vast amounts of information. Videoconferencing, two way inter-active television, is a relatively new technology that can bring together individuals from a variety of locations. Broadcasters have used this technology for some time but recently it has also become feasible for some companies, individuals, and legislatures. Considering the amount of travelling that members and legislative committees do the potential to conduct meetings without leaving their offices would seem to be very attractive. To explore the potential of this new technology and with a view to cost reduction the annual Editorial Board Meeting of the Canadian Parliamentary Review was held by videoconference in January 1994. This article examines the experiment and looks at some pros and cons of applying this technology to other areas of legislative life.

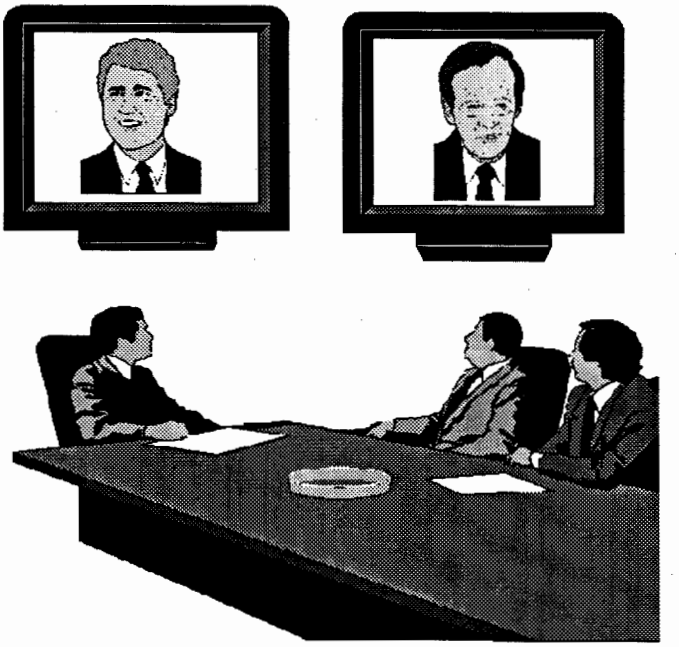
The *Canadian Parliamentary Review* is a quarterly journal published in English and French by the Canadian Region of the Commonwealth Parliamentary Association. It is distributed to federal, provincial and territorial parliamentarians as well as to a number of individuals and libraries across Canada and in the United States. The day to day administration of the Review is the responsibility of the Editor. There is also an Editorial Board consisting of senior officials from the Senate, the House of Commons, the Library of Parliament and four provincial and one territorial legislature. Customarily members of the Editorial Board meet each January or February, usually in Ottawa, to exchange ideas about topics for upcoming issues and to consider any policy changes for the Review. With a mandate to cover developments in all fourteen Canadian legislatures such informal brainstorming sessions are essential to publishing the Review.

Gary Levy is Editor of the Canadian Parliamentary Review. *Videoconference technology is rapidly evolving. The facts in this article represent the situation as of January 1994.*

The Search For Information

Having decided to look into the possibility of holding the next Editorial Board meeting by videoconference the first step was to find out how to do it and how much it would cost. Since neither the Senate or House of Commons was equipped to do videoconferencing, the first step was to call the Government Telecommunications Agency (GTA) in the Department of Communications. The GTA claims

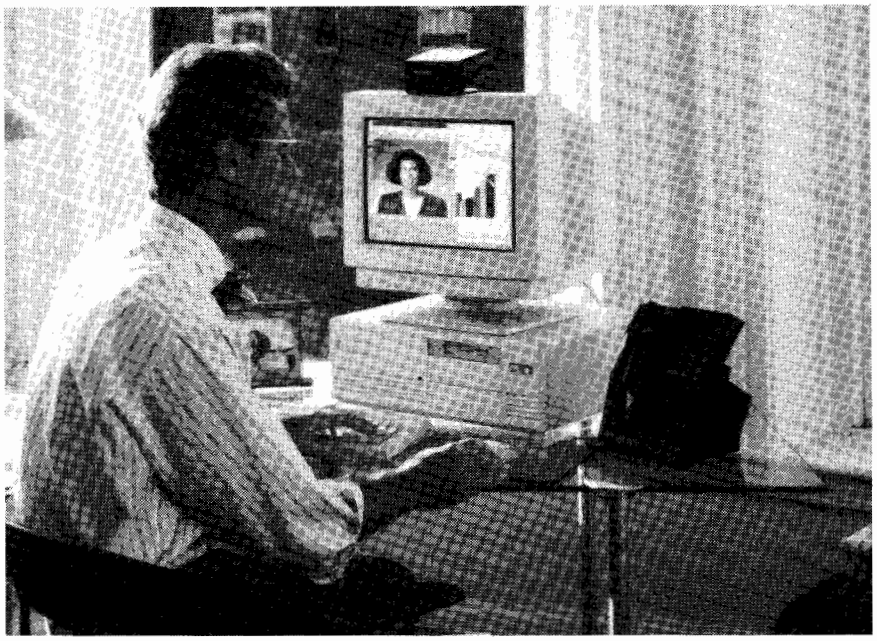
to provide "a comprehensive multipoint videoconferencing service that includes reservations, bridging, and terminal equipment, a complete user and operator training package, customized maintenance and support programs and the option of purchasing or leasing equipment required to set up a videoconferencing network." A few departments such as Transport and Employment and Immigration have their own extensive networks but for the occasional user the GTA did not offer much encouragement. They have facilities for videoconferencing between Ottawa, Toronto, Montreal and Vancouver but trying to include our members in Fredericton, Victoria, Quebec City, and Whitehorse would be more difficult. It was suggested we contact the Department of Transport to ask if we could "borrow" their facilities for our members in those cities. This might have worked but as an outside user could we really count on having our conference if some urgent departmental matter arose at the same time? According to the GTA they will have a network of videoconference sites across Canada for occasional governmental users by the end of 1994 but for the moment it seemed we would have to rely on the private sector.



When considering the adoption of a new technology the first problem is to find accurate information amidst the hype and salesmanship that surrounds it. The best way to separate fact from fiction is to experiment with the technology under actual circumstances.

A call to Bell Canada confirmed that Stentor, a consortium of Bell and all other telephone companies in Canada, offered videoconference facilities. Stentor has dedicated links for the transmission of video and audio signals thus providing high quality, fast, image transmission. In Ottawa conferences are conducted from the 14th floor of Place Bell Canada on Elgin Street about 5 minutes from Parliament Hill. Unfortunately Stentor did not have dedicated lines to either Victoria or Whitehorse. Their cost estimate for a 90 minute call to the remaining cities was $3,010. (For 60 minutes it would be $2,020). Cost is calculated on the basis of the number of sites plus connect time plus the distance between cities. To include everyone we would have to add the cost of transporting one person from Victoria to Vancouver and one person from Whitehorse to Edmonton or Vancouver. While their technology was impressive, Stentor's services seemed geared to the major cities. Users are encouraged to adapt to Stentor's technology rather than vice versa. This did not appear to be satisfactory so the search continued. Calls to Northern Telecom and Telesat Canada revealed that neither of these organizations offered videoconferencing services but both suggested a local company, Adcom Electronics Limited, located about 20 minutes from Parliament Hill on Belfast road in Ottawa.

Adcom uses digital (Centrex 3) data phone lines for their videoconferencing. Each call requires a minimum of two lines. Data is compressed, sent across the line and uncompressed at the other end. This results in a delay of about .4 seconds and an image that is slightly less clear than with Stentor's Video Forum (which uses 12 to 24 lines), particularly if there is movement. A demonstration call was offered to a site in Montreal and the quality appeared good enough for our purposes. The cost was also less than Stentor. This included Victoria but not Whitehorse. Calls to the North involve satellite links and are much more expensive and difficult to arrange. It was suggested that Whitehorse be added as an audio connection only. For an additional price, Adcom also offered an option whereby portable equipment could be installed at one or more sites thus eliminating the need



Person Visual Communications Software is now available for desktop computers

to travel to a studio. It was decided to do the videoconference with Adcom. They would provide an onsite installation in the Ontario legislature and a telephone hook-up for the Yukon.

Arranging the call

There are two types of videoconferences. Point-to-point calls enable two sites with compatible equipment to connect directly. Multi-point conferences between three or more sites require the use of a multipoint control unit (bridge). Adcom and other providers of videoconference services have agreements with Stentor in Canada and MCI in the United States providing them with access to a bridge. Basic arrangements for our multi-point videoconference including booking the rooms in each city and reserving the bridge was done by Adcom. After some problems finding a time that suited all members and when the rooms in all cities and the bridge could be reserved, the date and time were set for January 11, 1994 at 2:00 pm (that would be 11:00 am in Whitehorse and Victoria and 3:00 pm in Fredericton.

At the appointed time Members of the Editorial Board made their way to their respective sites. The Ottawa site was a meeting room with a table seating 6-8 people and two 35-inch Mitsubishi monitors against one wall. One monitor showed the six people in Ottawa, the other showed whoever was speaking from a remote site. On the table was a small remote control device which could be programmed so the Chairman could focus on whoever was speaking in Ottawa. Members at remote sites did not have to worry about moving the camera but had to press the mute button when they were not speaking so as not to pick up extraneous noise. This was important since the videoconference was voice activated. Whoever spoke first (or loudest) would be the one on the screen. Obviously if several persons tried to speak at once the conference would not work. The connection was made about 15 minutes before the start of the conference so there was an opportunity for all members to get accustomed to the videoconference ambiance. A separate document camera was available in each room in the event there were graphs or illustrations to transmit. The videoconference was recorded on an ordinary 1/2" video cassette.

Technology imposes certain constraints. Unlike a face to face meeting where members might catch the Chairman's eye when they want to speak, in a videoconference the Chairman calls on each person to speak according to a pre-arranged order. This person either makes some comments or indicates that he or she had no comments on the particular topic under discussion.

Pros and Cons

The videoconference worked pretty much as promised although there were minor problems. The Ministry of Education's room reserved in Victoria had to be changed the day before the conference when it was discovered it could not handle multipoint conferences. The Victoria site was changed to the Transport Canada's Canadian Coast Guard facility. It was also discovered that the portable equipment delivered to the Ontario Legislature

could not be used. It seems the legislature had a Centrex *voice* telephone line and not a Centrex *data* line. As a result the equipment was moved to another government building, the boardroom of the Computer and Telecommunications Services Building about three blocks from the legislature. The start of the conference was delayed about five minutes because only one of two lines was connected to the Fredericton site which was not receiving a video image. A simple redial resolved this problem and after a few nervous moments the conference started at about 2:05 EST.

As a technology for connecting legislators with the public or with each other there are more serious problems. The limited number of sites and difficulty of including the North is a definite problem. The need to leave the legislative precincts is also a major drawback. The approximate cost to set up permanent videoconference room arranges from about $30,000. to $70,000. depending on the configuration, and quality of cameras, monitors, microphones, software etc. It also requires installation by Bell Canada of the proper telephone data lines (about $430.) and a monthly payment for use of these lines (about $150.). A system that works from a desktop computer can cost as little as $10,000.

Before advocating installation of such equipment one has to consider the question of quality. Some Board Members probably went into the conference thinking the quality would be similar to what they see on television. However, broadcast technology does not involve any compression of the signal and the equipment is many times more expensive than what we were using. The images in our videoconference tended to be inconsistent. Some were quite clear others tended to be fuzzy. This may have been due to different lighting in the various rooms, the focus of the camera or the tendency of some people to use more body movement than others while speaking. Sometimes the sound was out of sync with the image. It was like watching a foreign movie where the voices are not dubbed very well. It can become quite distracting and detracts from the flow of conversation. The quality is directly related to the number of lines used. Sharper pictures would result from using more lines.

Other problems relate more to human than technological factors. Inevitably someone forgets to use the mute button resulting in that person being on screen and remaining there for the first couple of seconds of someone else's intervention. If the following intervention is short and followed by other short interventions, viewers find themselves looking at one face and hearing another voice. This is because the audio switch from one person to another is immediate whereas the video switch takes about a second which actually seems much longer during a conference. These problems apply only to multipoint conferences.

On the positive side a videoconference does impose a certain discipline on meetings. Members have to be ready to speak when called upon and the Chairman has to be in complete control. Interruptions, digressions or afterthoughts must be kept to a minimum. Everyone knew the conference could last no more than 90 minutes so there was a built-in incentive to stick to the agenda. The videoconference did serve the purpose of allowing an exchange of ideas and the transaction of business. Perhaps the strongest argument in favour of such meetings is a financial one. A Board meeting in Ottawa with members coming from Whitehorse, Victoria, Quebec City, Toronto and Fredericton would cost more than $8,500 assuming regular airfare, one night accommodation, meals and incidental expenses. Of course, this does not take into account the indirect cost of the time spent in transit.

The actual cost of this videoconference was $1,509. for the rooms, transmission, the bridge and the telephone add-on plus $1,150 for the portable equipment used in Toronto.

Ultimately the decision to hold a videoconference will depend on more than price. The consensus was that if the quality can be improved another videoconference would be given serious consideration next year. There was, however, an equally strong opinion that videoconferencing falls far short of actual meetings. There is no way this technology can replace actual eye to eye contact or a physical handshake that one experiences at a regular meeting. There was also a general feeling that videoconferencing does have some application for legislatures. The obvious example is for hearing witnesses who may be unable to appear personally before a committee or to save a committee from travelling to other cities.

> ***Videoconference links between committee rooms in Ottawa and the provincial and territorial legislatures could be a step to bringing our approach to government into the 21st century.***

With both the federal government and private sector determined to establish information highways in Canada, many Canadians are likely to have access to videoconferencing in the future. It is important that legislatures do not fall behind.