# ORGANIZATIONAL IMPLICATIONS OF HOW BANYAN HAS IMPACTED ON IDRC
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(NOTES FOR REMARKS)

Mr. Chairman, fellow panellists, ladies and gentlemen.

Good afternoon.

When first asked whether I would like to address this group, it was with some trepidation that I accepted. I am not a technical expert in your field. I am the type who once called our "hot line" to complain my micro was not working...the screen was all black. I was asked if I had tried the nob on the side of the machine to which I replied "of course, of course". The technician came rushing (after all I am a Vice-President) and turned BOTH nobs on the side of the micro and smiled. You know, that smile that says "Got you!" It certainly was one of life's embarrassing moments. It hasn't happened since, but perhaps you can now understand how I felt when asked to speak at this conference.
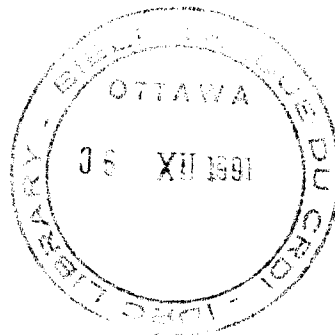
THE ORGANIZATION

I believe a few words about IDRC are necessary to put things in perspective before I address the question of how the introduction of BANYAN has impacted our organization. IDRC is a crown corporation that funds research in developing countries. We have some 600 employees and since 1970 have funded research projects in over 100 countries. We have a central office in Ottawa and regional offices in Singapore, New Delhi (India), Nairobi (Kenya), Dakar (Senegal), Cairo (Egypt) and Montevideo (Uruguay). We have an annual budget of some $115.0 million and because we fund research, most of our professional staff are researchers (ie. most have a medical degree or doctorate of some kind or another).

Some four years ago, we had two mini-computers and 5 or 6 micros. Most of us had never heard of the word LAN and viewed computers with a mixture of awe and scepticism. For years we had laboured to try to improve the in-house software systems developed to work on our minis. Frustration and disappointment are a few of the clean words I can use to describe our situation. Some of our staff were quite computer

literate and were, of course, quite critical of our state of affairs (and not always in a constructive manner). We were not in good shape and what made it worse was that it was an area under my responsibility.

INTRODUCTION OF AUTOMATION

Here it is, four years later and this is what our office automation setup now looks like. As I said before, I am not a technical expert so don't ask me any questions about this overhead.

We now have 570 microcomputers in Ottawa and the regional offices and 4 minicomputers.

The left side of the diagram illustrates our Ottawa-based Banyan LAN which runs on IBM Token Ring and Northern Telecom's Lanstar. There are 5 servers. People can access the system from home which is why you see the little house here. Last month we introduced a policy for working at home. I'll come back to this policy later.

The right side of the diagram illustrates our Wide Area Network (WAN). We have two ways to access the regional offices:

■   One is through X.25 packet-switch connections using networks such as Datapac. We call this our X.25 cloud which includes datapac for Canadian transmissions, Urupac for Uruguay transmissions, Kenpac for Kenyan transmissions and so on. Singapore and Montevideo have BANYAN LANs running in their offices.

■   The other way we access the regional offices is through Zoomit. It gets us onto Envoy 100, DialCom and a number of other e-mail networks.

Our staff who travel have e-mail access from their laptops using Zoomit. We also have established connections with some of our researchers who can now access us directly from their offices.

The applications we are currently running include the Banyan e-mail package, WordPerfect, Lotus 123, a filing program, a personnel program, HP host access to financial programs and a number of in-house programs developed using DBASE and

home-grown software. On the LAN, we have a filing system for people to access the

corporate manuals and the minutes of various meetings held by management. We are

in the process of introducing Trellis's TimeTalk calendaring software for corporate

meeting planning and resource booking (eg booking rooms, laptops, etc).

HOW WE AUTOMATED

So, how did we do it? Well, let me stress it was no picnic and the ants continue to run

rampant. Perhaps the best analogy is the office automation pendulum. For years, we

were running after this pendulum. We knew we had to automate but we never could

reach it. It kept moving away. And we were running, boy were we running. Then

came the micros, the LAN and BANYAN. We had made it and had reached and

touched the pendulum. But then the pendulum turned around, we were faced with the

effects, the impact and we are running again to react and adjust.

I would say that six things helped us automate the way we have:

THE FIRST THING was a decision I made to form a Working Group on Automation to provide recommendations about what needed to be done and how it could be accomplished. In effect, I got the staff onside and was willing to act on their recommendations. I continue to form working groups to help resolve issues and prioritize purchases and activities. We currently have, for example, a LAN Users Group and a Records Management Users Group. These working groups have membership from all strata of the organization. I also established an EDP Committee. The Committee and working groups provide advice and broad-based support for decisions that are made. Most of the time they give me major headaches.

THE SECOND THING that helped us automate was the example the senior executives provided. The President sends all his messages on the e-mail system, so you either know how to use the system and can read his messages or you are out of it. Early on, I became a proficient user so the staff wouldn't be able to pull anything over on me. You have to watch. It's amazing the impetus it gives when senior management set the tone. Accustomed, as we are, to getting immediate responses to our requests, we reacted negatively when certain responses were not forthcoming. The President had

only to say "why the heck haven't you answered your e-mail" or "don't you read your e-mail?" to stir the interest of people. You would be surprised at the number of urgent requests for training that were received. In no time, all senior management was using the e-mail and communicating to each other using this mode. When they were on side, they equally wanted to be linked with all their staff, and if the staff did not answer their e-mail, they were subject to the same pressures and on and on.

THE THIRD THING that helped us automate was our training. We really invested heavily in this, and we continue to do so. No one got a micro without training. If someone said they didn't want either, we said "good, so many other people want a micro and training there just isn't enough to go around." They came on board soon after. We didn't push anyone into it and in 3 years there was a micro on everyone's desk.

In addition to the intense and widespread training, **THE FOURTH THING** we did was offer the possibility of an interest free loan to employees who wanted to buy computers providing they organized themselves and took responsibility for much of the purchasing.

In three years, of the 365 employees in Ottawa, over 50% have responded and purchased home computers. Organization and information sharing came through a Computer Club they setup. This action enabled many of our staff to train themselves at home and gain additional computer skills.

THE FIFTH THING we did was to establish <u>firm</u> standards for sharing electronic information. There was one and only one naming convention, for example, for establishing e-mail addresses. We used our telephone directory. Likewise, only one naming convention applies for filing minutes and notes of meetings. The standards have allowed training to be meaningful. They have also ensured documents can be sent and retrieved in a uniform fashion.

THE SIXTH THING that helped automate was the ease of communication Banyan provided. I chose BANYAN chiefly because of its communication capability. I was told it was the best in this regard and that, yes, another brand had more software, but the strength of BANYAN was its communication capability. As you can see from our setup, communication capabilities are critical, and therefore, I was easily sold.

So, we got BANYAN installed and then the floodgates opened in ways we never could have imagined.

THE IMPACT BANYAN AND THE LAN HAS HAD

(i) Improved our Business Communications

√   It is helping us do our business better by allowing us to communicate more quickly and easily with our regional offices and recipients in developing countries. We are also communicating with other donor organizations with greater ease;

√   It has simplified our communications and speeded up the decision making process. People respond to e-mails immediately. Why the e-mail makes people react immediately I don't know but it does. Decisions are now made quicker. As well, it saves time. When we send e-mails instead of calling we save time not exchanging niceties...how was your week-end etc. So, we're not as nice as we were before. Really, we do save on the length of the communication. With e-mail there is a tendency to go straight to the point;

√   It made the physical location of the employee less important than before. Employees can readily communicate with each other anywhere in the world;

√   It has opened the possibility of working from home which is now more of a reality. As noted earlier, management approved a trial period where divisions could experiment with this concept.

(ii) Flattened the Hierarchy

√   It assisted in flattening the hierarchy. When we first began providing employees with micros, there was of course considerable impact. But it was only when people could sit at their desk and write to anyone in the Centre, regardless whether they were in head office or in any of our regional offices, without any formality, without any special skills that we really began to achieve what we had hoped for in the beginning. Now, with the e-mail, anyone can send a note, a request to anyone in the Centre. The organization became flatter overnight;

√   It pressured management to communicate everything that was said everywhere;

(iii) Improved Efficiency and Reduced Costs

√   It has improved our efficiency and contributed to reducing our costs of operation; eg. When a memo was written, it would take time to draft, time to type, time for the memo to reach the person you were writing to, time to get a reply and lets not talk about the time to file and deliver etc. The cost was enormous and the process archaic and inefficient. Likewise, it was costly for our regional offices. They can now communicate amongst themselves. There is great potential for reducing the number of long distance calls, telex and courier costs. It is too early to evaluate these but we will be in a position to do so shortly.

√   It speeded up the automation process and placed us in a position to make uniform changes since everyone was on-line;

√ At the same time, BANYAN eased some people into automation gently, first through the use of e-mail and then into applications that were more difficult to use;

(iv) Raised Re-engineering Possibilities

√ It opened our eyes to some new possibilities in terms of the way we do our work. We are now talking of "re-engineering" some of our work to take into account the fact that groups are no longer working in isolation. Fundamental questions about what we do and how we do it are being raised;

√ The LAN has altered the type of work done by secretaries and professional staff. The arrival of BANYAN, the LAN and the micros have enabled the professionals to do some of the tasks previously done by their staff. Doesn't sound too good does it? We are viewing it positively because secretaries are doing more administrative tasks than before. Likewise, professionals are expected to be able to type. There is a need to totally redefine the role of a secretary in our organization - upwards.

✓ It has placed some of our current administrative processes, procedures and approval systems in question and has pressured administrative departments to improve their operations (automated filing, automated purchasing, etc.);

(iv) Created Demands for More Technology and Specialized Skills

✓ It has created incredible demands for faster machines, new applications, quicker movement between software packages (windows). Leading the pack in software demands are senior executives who now want Executive Management Information Systems. All we need to do now is to get them to identify the information they need!;

✓ The pressure to step on the leading or "bleeding" edge of technology continues to mount. Optical readers, CD-ROM and other technologies continue to pop up all over the place, thanks to the creative talent of our staff.

√   It has created additional demands for training (LAN-based training on shared filing systems, e-mail, calendars, using different drives and accessing manuals, meeting notes, etc.) just after we had started to see the light at the end of the tunnel after introducing the micros in a stand-alone environment;

√   It has intensified the profile of the critical role information plays in an organization and has resulted in requests for an Information Manager;

In general, it has become such an integral part of our work that we cannot operate without it. Chaos breaks out when it goes down. For example, the president recently asked his secretary to arrange for certain senior staff to meet. Since the LAN was down at that moment, the secretary replied that she would arrange the meeting as soon as it was back up. A year ago, we did not have it and now we can't arrange a meeting without it. What it had removed in this case was the frustration of going back and forth on the telephone to find an appropriate time. How easily we get spoiled.

The introduction of the LAN has also posed some unforeseen challenges.

√ There is a need to place more control on the development of divisional applications. There is a cry for more and more applications and since software is cheap, it can be obtained easily and is being installed in many areas. The result is increased demand for user support. Despite saying we will not support all software, the "please help" cry continues to strain our user support centre.

√ Security continues to be a concern, particularly the danger of virus contamination considering the influx of diskettes we have from home or from the different regions around the world.

√ The use of electronically transmitted documents as legal entities continues to pose a challenge, in Canada and in developing countries.

√ The state of telephone systems in developing countries continues to present transmission problems, as does the multiplicity of transmission

standards one encounters, although X.25 has become a reliable and almost universal medium.

FUTURE DIRECTIONS

Today, as I am speaking to you, my organization is going through a difficult period. We are changing a number of our directions, management has been reduced both in numbers and in levels, we must downsize our staff complement by some 20% and we must relocate a number of our overseas staff. We must face this challenge with a grant level which has remained unchanged for 4 years and wherein we must find the resources necessary to not only fund our restructuring but at the same time improve on our program /admin ratio by 10%. Such a challenge is facing us.

As I was drafting my remarks, I wondered whether having the micros, the LAN and BANYAN would make a difference in the way we approached this challenge and our chances for success. These are some of the initial thoughts that came to mind:

One of the approaches we are using to cope with staff reductions is the re-engineering of some of our work processes. You are perhaps familiar with the re-engineering literature that advises us not to "automate", but instead to "obliterate". It sounds like the title of a new Halloween movie, doesn't it. The notion is that an organization should not automate old work processes that it had prior to automating. Instead, it should obliterate these processes and, in light of the advantages automation has brought, re-engineer or re-design its work processes. What has this got to do with BANYAN? Quite a lot. Without the LAN and BANYAN we would not be able to conceive of such radical changes occurring in our work processes. Now, we can see how changes can be more readily implemented in a uniform way throughout the organization. We can envision new ways of doing things because BANYAN has opened our eyes to new possibilities and it has allowed us to raise serious questions about why we need to do some things. Many of the things we used to do are no longer necessary, in part because new channels of communication are open. As well, many procedures are more transparent than before, which has given more people an opportunity to question their value.

√   The wide distribution of micros and excellent communication capabilities will also enable us to draft the budget for the coming year in record time, without the previous paper burden and super human effort required to consolidate the data. Instructions, submissions and consolidation of material can now be done electronically. A process which would have required many months in the past can now be done in a very short time.

√   If this was four years ago, I would not have the information I need to make decisions in a timely fashion. Using the LAN and BANYAN, I have been able to request and quickly receive information I need about the level of projects we can fund in the next 3-4 years and the information I need regarding personnel costs which we must constantly analyze during this difficult period. As well, I would not have the information I need to give to our program directors for them to make the decisions we are asking of them.

√   Fortunately, we made the capital investment at the right time - now we are ready to put the value of these decisions to the true test - can this investment deliver a high return at this critical time in IDRC's evolution? This is where we are now,

and I am confident the investment will prove worth its weight in gold. I can say, however, that I am happy I did what I did when I could. There is no way I could make that investment today, given the situation we find ourselves in. I must make sure we do not fall behind again, because to do so would be tantamount to suicide. Care, however, must be taken to ensure the technological choices we make and the way we capitalize on these technological choices, are the correct ones.

CONCLUSION

I cannot understand how we could operate without the LAN or BANYAN. As well, I have learned how hard it is to try to predict the impacts technology will have. So, instead of doing that I am simply trying to manage its introduction with an open mind and with a keen sense of trying to extract the maximum benefits it can provide. I think the Centre made an excellent decision choosing Banyan. I remember your past President, Jackson Shaw, advising me that with his ideas and my money we could go a long way. He was right and I'm pleased with our achievements to date. I recognize, however, that the challenge ahead is a serious one. With that in mind, I am confident that the LAN and BANYAN will play an important role in this next phase of the Centre's evolution.

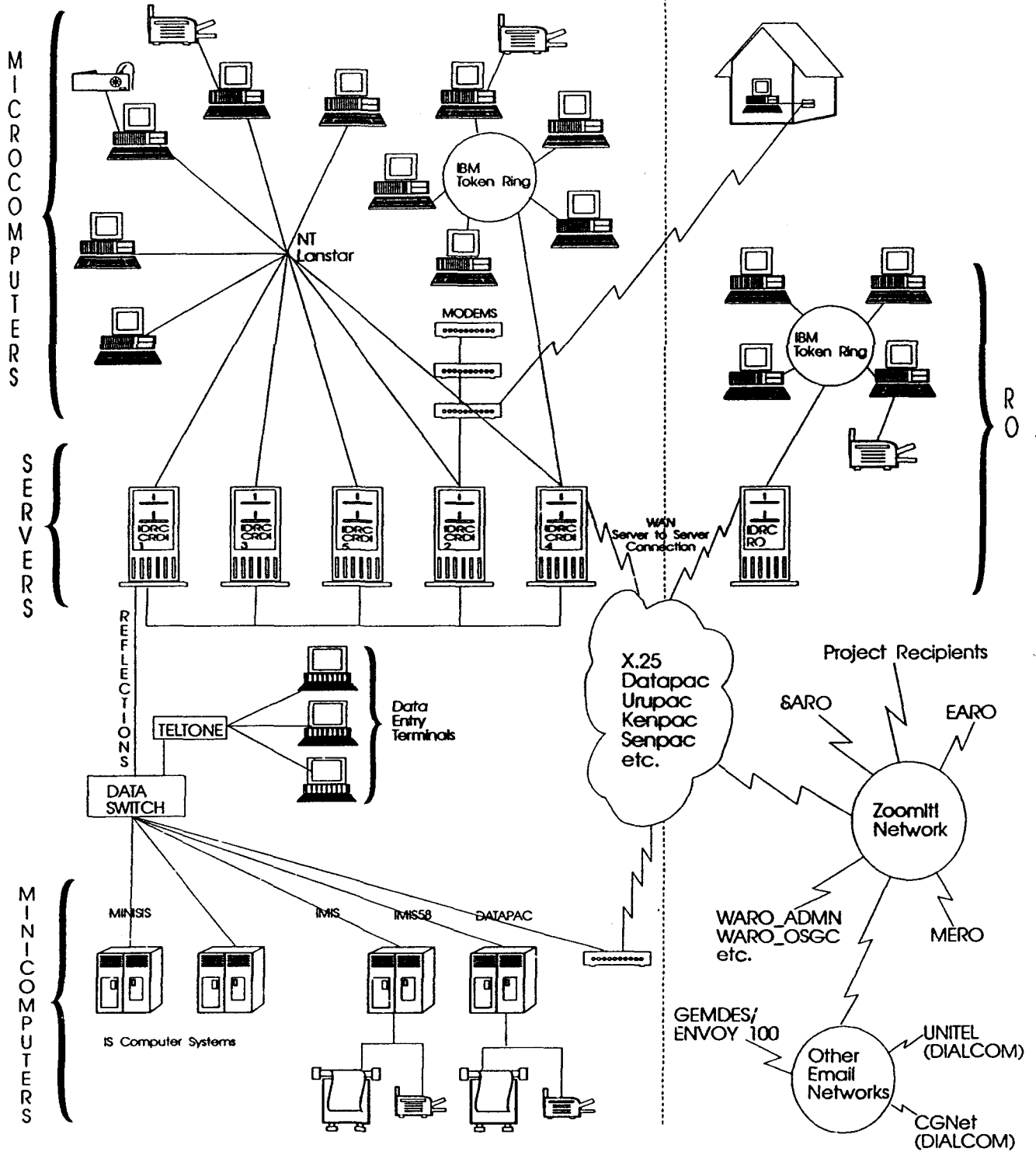# PRESENTATION

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- ## THE ORGANIZATIONAL CONTEXT

- ## THE AUTOMATION PROCESS

- ## BANYAN'S IMPACT

- ## FUTURE DIRECTIONS

IDRC Local Area Network (LAN)

Wide Area Network (WAN)

MICROCOMPUTERS

SERVERS

MINICOMPUTERS

RO LAN

NT Lanstar

IBM Token Ring

IBM Token Ring

MODEMS

REFLECTIONS

IDRC CRDI 1

IDRC CRDI 3

IDRC CRDI 5

IDRC CRDI 2

IDRC CRDI 4

WAN Server to Server Connection

IDRC RO

Data Entry Terminals

TELTONE

DATA SWITCH

X.25 Datapac Urupac Kenpac Senpac etc.

Project Recipients

SARO

EARO

Zoomitt Network

WARO_ADMN WARO_OSGC etc.

MERO

MINISIS

IMIS

IMIS58

DATAPAC

IS Computer Systems

GEMDES/ ENVOY 100

UNITEL (DIALCOM)

Other Email Networks

CGNet (DIALCOM)

IDRC:
THE OFFICE AUTOMATION PROCESS

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- FORMED CENTRE-WIDE WORKING GROUPS

- INVOLVED SENIOR EXECUTIVES

- INVESTED IN TRAINING

- OFFERED INTEREST FREE LOANS

- BASED LAN PURCHASE ON COMMUNICATION CAPABILITY

- ESTABLISHED FIRM STANDARDS FOR SHARING FILES

BANYAN'S IMPACT ON IDRC

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- IMPROVED OUR BUSINESS COMMUNICATIONS

- FLATTENED THE HIERARCHY

- IMPROVED EFFICIENCY AND REDUCED COSTS

- RAISED RE-ENGINEERING POSSIBILITIES

- CREATED DEMANDS FOR MORE TECHNOLOGY AND SPECIALIZED SKILLS

- STRAINED USER SUPPORT SERVICES

- PRESENTED ADDITIONAL SECURITY AND LEGAL ISSUES

- HIGHLIGHTED THE NEED FOR INTERNATIONAL STANDARDS