



cc D. J. EOL

10 DOWNING STREET

THE PRIME MINISTER

24 April, 1984

Dear Mr. Read.

I am most grateful to ITAP for producing their recent confidential report on this important issue in such a short time. It is a valuable input to our deliberations on a difficult problem. My colleagues in the Department of Trade and Industry will take its conclusions into account in reaching their decisions.

Yours sincerely

Raymond Barber

C N Read Esq CBE



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*From the Minister of State  
for Industry and  
Information Technology*

RT HON KENNETH BAKER MP

David Barclay Esq  
10 Downing Street

18 April

*Dear David*

IBM AND BT

Thank you for your letter of 10 April.

I attach as requested a draft letter for the Prime Minister to send to Charles Read thanking him for the effort put in by ITAP in producing their report.

*Yours sincerely*

*Steve Mummery*

STEVE MUMMERY  
ASST PRIVATE SECRETARY

*GP  
PL type for PM's  
signature  
AF 15/4*

DRAFT FOR THE PRIME MINISTER

C N Read Esq  
Director, Information Technology  
The Post Office  
St Martins le Grand  
London EC2A 1HQ

IBM AND BT: ITAP REPORT

I am most grateful to ITAP for producing their recent confidential report on this important issue in such a short time. It is a valuable input to our deliberations on a difficult problem. My colleagues in the Department of Trade and Industry will take its conclusions into account in reaching their decisions.

Post & telecom : Future A8.



London E12 1JH  
at 11.15 am on 19 April 1984  
The Post Office  
London E12 1JH

POST AND TELECOM : FUTURE A8

In most parts of the world, the postal service is a monopoly. It is a natural monopoly because of the high fixed costs of the infrastructure. It is also a natural monopoly because of the economies of scale. The postal service is a natural monopoly because of the high fixed costs of the infrastructure. It is also a natural monopoly because of the economies of scale.

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10 DOWNING STREET

*From the Private Secretary*

10 April, 1984

IBM and British Telecom

Thank you for your letter of 5 April about the ITAP Report on British Telecom and IBM. I discussed this briefly with one of your colleagues last evening.

Unless you disagree, I think there is a case for the Prime Minister sending a short letter of appreciation to Mr. Read - not least because the panel is appointed by her. I should be grateful if you could provide an appropriate draft to reach this office by Wednesday, 18 April.

DAVID BARCLAY

N. M. McMillan, Esq.,  
Department of Trade and Industry

15T



ce DP

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From the Minister of State  
for Industry and Information Technology

RT HON KENNETH BAKER MP  
Charles N Read Esq CBE  
Director of Information  
Technology  
St Martins le Grand  
LONDON EC1A 1HQ

cc PS/Secretary of State  
PS/Mr Butcher  
PS/Sir Brian Hayes  
PS/Mr Sterling  
Mr Croft  
Mr Willott (or)  
Mr Macdonald  
Mr Ellison T  
Mr Smith IT  
Mr Bartlett ITSU  
Mr Taylor  
Mr Vinall 6 April 1984  
Dr Hubble

*John Chambers*

IBM AND BRITISH TELECOM

*attached*

I am grateful to the IT Advisory Panel for the report provided under cover of your letter of 18 March. I have noted that the Panel have not directly approached either BT or IBM and that its report is therefore not based on knowledge of any specific joint venture propositions. If such proposals materialise, I hope that there will be an opportunity to consult the Panel further. The report contains many interesting thoughts on policy towards IBM and BT, the impact of which goes beyond any specific ventures. We shall be giving careful consideration to these points.

*Ken Baker*  
*Kenneth Baker*

KENNETH BAKER

M40/M40AAH



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*From the Minister of State  
for Industry and Information Technology*

RT HON KENNETH BAKER MP

David Barclay  
Private Secretary  
10 Downing Street

5 April 1984

*Dear David*

Thank you for your letter of 19 March seeking advice on the handling of the ITAP report on British Telecom and IBM. You mentioned that Mr Read neglected to enclose a copy of his letter to Mr Baker and I am attaching a copy for your reference.

You will see that Mr Read makes it clear that this report is not based on detailed knowledge of IBM and BT's proposals for a joint venture. Nevertheless, Mr Baker considers that it contains some important points which he will be taking into account in our developing policy towards both organisations. So far as the joint venture proposition itself is concerned, Sir George Jefferson has told us that he intends to make a public statement outlining the kind of services that BT are contemplating providing in the future. Once this has been done, we hope to consult a wider range of opinions. This report will constitute an important part of that consultative process, and it may well be that ITAP wish to give further views when they have more specific knowledge. However our Secretary of State has made it clear to Sir George Jefferson that he is not willing to reach a view on the joint venture proposal until he has been able to consult more widely.

*Yours sincerely,  
N M*

N M McMILLAN  
PRIVATE SECRETARY

M40/M40AAH

POA + Tekcomm's : POA office

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ACK 19/3

HL

10 DOWNING STREET

*From the Private Secretary*

19 March 1984

We had a brief word about the enclosed letter to the Prime Minister from Mr. Charles Read with which he enclosed a note by the Information Technology Advisory Panel on British Telecom and IBM. The letter to your Minister to which he refers was not enclosed.

BE // I should be grateful for your advice on how this letter should be handled, and in particular to know whether the substantive response should come from here or from your Department. Meanwhile we have acknowledged Mr. Read's letter and told him that it is receiving attention.

David Barclay

Neil Mcmillan, Esq.,  
Department of Trade and Industry.

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Date 16 March 1984

Our reference

Your reference

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The Right Hon Kenneth Baker MP  
Minister of State for Industry &  
Information Technology  
1-19 Victoria Street  
LONDON  
SW1H 0ET

*Dear Kenneth,*

*Mr Duguid  
PSIB Polsec  
Mr Croft  
Mr Wilby  
Mr Macdonald  
Mr Smith  
26/3*

## IBM AND BRITISH TELECOM

When you met the IT Advisory Panel over dinner on 20 December last, we discussed the implications of the withdrawal by the US Administration of the anti-trust case against IBM and at the conclusion of the evening you invited the Panel to consider the subject further, with particular reference to prospective joint ventures between IBM and British Telecom once privatised.

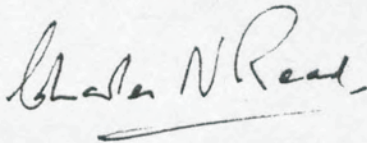
Because of the sensitivity of this subject, the Panel did not feel able to approach either BT or IBM directly. We did, though, receive presentations from several consultants knowledgeable of IBM and its future moves and of the future of telecommunications markets.

... I now attach the result of our deliberations. The Panel, as you will recall, was set up to provide a market-related input to IT policy and we have therefore approached this subject very much from the point of view of people engaged in the marketplace for IT products and services. Through its telecommunications policy, the Government had sought to create a competitive market for IT products and services, thereby encouraging the development of vigorous and efficient suppliers. We are in complete agreement with this aim. Whatever policies are adopted, BT and IBM will, of course, be highly important participants in this country's IT markets for the foreseeable future. However, the Panel see a considerable risk that, under present policies, they can severally and jointly exercise complete market dominance over a wide range of IT products and services. This is very far from being the free and open competition which the Government desires.

The Panel have therefore suggested some ways in which the Government's licensing and procurement policies might be used to try and prevent this dominance from occurring. We have based these on an examination of the factors that underpin BT and IBM's market strengths, rather than on knowledge of the specific joint ventures that are under consideration. Clearly our proposals could be "tuned" to meet specific requirements, but we believe that our principles provide a sound basis for future policy. We are, of course, very ready to supplement the attached note with a discussion of its conclusions and proposals.

The Panel is, as you know, appointed by the Prime Minister. Because of this, and because of the importance of this subject to the nation, I am sending the Prime Minister a copy of this letter and of our report.

Yours sincerely

Handwritten signature of Graham N. Reed, underlined.

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POA Phil: Inkw of Pt 8

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Date 16 March 1984

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The Rt Hon Margaret Thatcher MP  
Prime Minister  
10 Downing Street  
LONDON  
SW1A 2AA

R1713

Dear Prime Minister

## BRITISH TELECOM AND IBM

Last December, Kenneth Baker invited the Information Technology Advisory Panel to consider the implications for the United Kingdom of the withdrawal by the United States Administration of the anti-trust case against IBM and the possibility that it would seek joint ventures with British Telecom once BT was privatised. The Panel has now submitted its views to Mr Baker, and I ... attach a copy of my letter to him and the Panel's report.

Briefly, we are concerned that under present policies, BT and IBM will exert a dominant influence on the market for IT products and services within the UK; joined together, their market strength could be overpowering. This would not bring about the competition in telecommunications products and services that the Government desires. We therefore consider that explicit policies to counter this possibility are required. These would be implemented through the Government's licensing and procurement powers.

We look forward to receiving the Government's reaction to our views and are, of course, ready to discuss them with you or any of your colleagues.

Yours sincerely

Charles N Read

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COPY NO 1

BRITISH TELECOM AND IBM - PROSPECTS AND POLICIES

A note by the Information Technology Advisory Panel.

Cabinet Office  
March 1984

## SUMMARY

1. To create more efficient telecommunications in Britain and a more vigorous supply industry, the Government has sought to introduce competition into the supply of telecommunications products and services. The Government also intends to transform BT into a private sector company, so that it may develop without the restraints of public sector finance and operation.
2. Microelectronics technology is bringing together suppliers of computers and of telecommunications equipment. Computers are increasingly being linked into networks, and the provision of Value Added Network Services (VANS), where there is manipulation of the data transmitted, is a growth point in telecommunications services. The policies of PTTs are therefore of great importance to computer suppliers; in particular, through the technical standards that they employ in their networks, PTTs can define the way that communications take place between computers.
3. In the supply of VANS and telecommunications products, PTTs have considerable advantages over their competitors through their control of final links to users, their large cash flow from voice services and their established technical and supply organisations. These advantages may be exercised in conjunction with suppliers of specialised equipment or of services. By forming commercial links with a particular supplier, a PTT may give them a corresponding market advantage over competitors. This is to the benefit of the selected supplier, but does not promote a wholly competitive environment. Regulation of such linkages is difficult because of the intertwining of the supply of voice and data network services with the supply of VANS and products in the organisation of a PTT. In the UK, the resources available to BT will far exceed those available to OFTEL; there is an appreciable risk that BT will come to dominate not only the supply of telecommunications services, but also of a large part of the IT market and will, by its choice of partner in new services, determine the

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"winners" in travel, retailing, information and other services.

4. A particularly important form of linkage is that between a PTT and a product supplier, in which that supplier's proprietary standards are used for transmitting information. This encourages users to purchase from that supplier, and other suppliers have to seek licences or otherwise emulate that supplier's standards. The only widely accepted, and reasonably comprehensive, high level set of standards for information transmission are those of IBM, called Systems Network Architecture (SNA). A new set, more suited to the computer networks of the future, is being developed by the International Standards Organisation under the name of Open Systems Interconnection (OSI); however, these will not be available before 1985 and, even if successful, will not have the world-wide acceptance of SNA for some years.
5. IBM has 70% - 80% of the World market for business computers. Each year, its turnover (1982: \$34.4 billion) grows by an amount equal to the total turnover of its largest competitor. It has 25% of the UK computer market in comparison to ICL's 15%. Its marketing policies have become noticeably more aggressive since the present US Administration removed the anti-trust suit against it, in order to allow it to compete more effectively against Japanese suppliers.
6. Such market dominance is not wholly bad. Small companies find it beneficial to have such a dominant power in computing; it provides a large potential market for IBM-compatible equipment and services. Nevertheless, the situation is not conducive to healthy competition, and a principal aim of IT policy in the UK (and EC) should be to contain IBM to approximately its present market share in order to allow room for competitors.
7. Two forces are therefore working against the creation and maintenance of a vigorous competitive environment for IT products and services: the market power of BT and the dominant position of IBM. We foresee BT, under present policies, extending its influence on the UK market for IT products

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and services as it extends its range of activities. It will be able, by its procurement policies and commercial alliances, to determine the success or failure of product or service suppliers. In particular, by deploying its market power in support of VANS based on SNA, it could substantially strengthen the already powerful market position of IBM. There are short term advantages for the consumer in this situation; some services will be provided rapidly and effectively through the immense resources of BT and IBM. In the longer term, however, we consider that consumers' interests are best served by having genuinely competitive suppliers of IT products and services.

8. The Government has, through its licensing of BT, direct power over its market position. The Government's influence over IBM is less direct, and it must be accepted that IBM will remain a powerful, and perhaps dominant, force in computing for the foreseeable future. Nevertheless, Government is not wholly powerless. In order to create conditions which maximise the chance of free and fair competition in IT products and services, we propose:

- New policy prohibition*
- i. BT should not be a VANS operator, i.e. its network services should be those of a "common carrier". This will prevent its marketing power being used to create dominant forces in other service activities.
  - ii. BT should have, as a declared aim, the use of "open" non-proprietary, internationally recognised technical standards. It will need to offer a service based on SNA, because of the widespread use of SNA. But it should seek through its market power to persuade IBM to declare SNA an open standard and to publish full information about it.
  - iii. BT's manufacturing and product supply activities should be monitored closely, with a turnover limit being applied and with BT divesting itself of activities that exceed this limit.

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- iv. Government should give every support to the OSI initiative in order that, in time, there may be a commercially attractive alternative to SNA which is not the property of any single computer supplier.
- v. BT should not participate in cable systems other than as a supplier of voice services. In the long term, cable systems could offer genuine competition to BT at the local level and it is therefore essential for their control to be independent of BT.
- vi. Government should use its purchasing power initially to persuade IBM to make SNA an open standard and in due course to persuade it to implement and support OSI standards. (This would ensure the success of the OSI initiative.) IBM would very much like to receive orders from the UK Government - they should give something in return.
- vii. If IBM applies to be a VANS operator, using its proprietary standards, a Monopolies and Merger Commission reference should be sought. There is a reasonable chance that this would result in its being prevented from extending its influence on the IT market through a VANS operation.
- viii. Since BT and IBM individually have such great market power, any proposal that they should combine to provide services to third parties should be treated with the utmost caution. It should only be sanctioned by the Director General of Telecommunications after rigorous enquiry into its possible consequences.

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BRITISH TELECOM AND IBM: PROSPECTS AND POLICIES

THE CURRENT SCENE

Competition in telecommunications

1. The Government's principal objective in telecommunications policy since 1979 has been to introduce market forces and consumer choice into the supply of telecommunications products and services. It has progressively reduced the monopoly that British Telecom previously enjoyed over the supply of these products and services. It has established a separate approvals organisation in order that equipment suppliers may have products certified as acceptable for connection to the BT network. Most radical of all in policy terms, it has licensed a competitor to BT in general network services in the form of the Mercury consortium.
2. At the same time, however, the Government is - through privatisation - intending to free BT from the constraints of public sector operation and is substituting for statutory and Parliamentary control a new form of supervision in the shape of the Director General of Telecommunications, whose responsibilities will include the monitoring and, where necessary, amendment of the conditions in BT's operating licence. On privatisation BT will become a private sector organisation which in 1982/3 had a turnover of £6.4 billion, with a current monopoly of links to final telecommunications users (control of "the last mile"), and with little constraint on the telecommunications products and services which it may supply, provided it does not abuse its market position, eg through unfair cross-subsidies.

3. It is noticeable that established UK suppliers of telecommunications equipment have been reluctant to market direct to the user for fear of upsetting their principal customer, BT. (Newer entrants are, though, offering equipment through both routes.) It is also noticeable that BT has over the past three years not only sharpened its performance considerably, but has extended its range of activities well away from the basic network services of voice and data transmission. It is now, for example, entering the market for complete office information systems. Whatever the theory behind the policy of liberalisation and privatisation, therefore, the current reality is that BT remains by far the dominant power in the telecommunications marketplace and, through its policies on procurement, on the services that it offers and on technical standards, and has the power to determine the shape of the UK market not only for telecommunications but for the wider IT sector.
4. Within Europe, the same trend to liberalisation is evident, but has not been carried as far as in the UK. No European PTT has either lost its monopoly of service provision or been privatised. Some have, though, relaxed their rules sufficiently to allow competition in the supply of terminal equipment.
5. One newcomer to the European telecommunications scene is AT & T, newly separated from its local operating companies; it has taken stakes in both Olivetti and Philips but its future position in Europe must be speculative. It has no base from which to develop the provision of telecommunications service and there are well established European suppliers of public switching equipment. It may be wishing to deploy its technical strength (Bell Labs etc) through European suppliers, but its likely impact on the principal suppliers of telecommunications services and computers would appear marginal, at least in the short and medium term.

Competition in computing

6. Computers come in a vast variety of sizes and powers, from the Sinclair ZX81 to the Cray computers used for meteorological forecasts. IBM has though for many years dominated the world market for general business computers. Its total turnover in 1982 was \$34.4 billion of which \$10 billion came from European sales. Each year, its turnover grows by a sum equal to the total sales of its nearest competitor, DEC. IBM equipment accounts for 70 - 80% of the world's computing power and it has more than half of every national "business" computer market with the exception of the UK and Japan, where its penetration is 25% and 20% respectively. In Europe, its revenues are equal to the total data processing revenues of its ten largest competitors.
7. IBM effectively entered the market for smaller computers only in 1982 but has so far captured around 30% of the US market and 10% of the European market for small business computers (costing £2500 - £5000). More recently, it announced a still smaller and cheaper model for "personal" computing. This illustrates a general trend for computer suppliers to extend their ranges - sourcing from outside, if necessary - in order to be able to satisfy the whole of their customers' requirements.
8. Because of its dominant position in the supply of mainframe computers to the US market, IBM was until recently the subject of anti-trust litigation in the USA. The present US administration withdrew the suit in order to allow IBM to compete more effectively against Japanese suppliers. Since then, IBM has adopted increasingly aggressive policies towards competitors. Much less information is now available about its Operating Systems software and so other suppliers whose equipment needs to link with IBM systems, and manufacturers of "plug compatible" computers that employ IBM software, will have more difficulty in designing their products in future. IBM has also conducted a successful legal case against Hitachi over the illicit use of its technology and as a result has - at least temporarily - checked the penetration of Japanese suppliers in the US market.

9. IBM is still, though, the subject of anti-monopoly proceedings instigated by the European Commission. It lost on first hearing, and in consequence is having to reveal technical information to competitors. An appeal is pending.
10. ICL's share of the UK market for larger computers has been similar to that of IBM, but it is now about 15%. Its position has been steadily slipping, and its users are concentrated in the public sector. Although it has linked with a number of overseas suppliers and collaborators; its prospects in the long term are not good. There must be doubts over whether it has the technical resources necessary to support its wide range, and its position in the commercial user market, where growth is buoyant, is weak. All UK suppliers are suffering from the general decline in UK preference in public sector purchasing. ICL is more vulnerable than most. Nevertheless, it remains the most significant European supplier of larger computers.

#### Technological trends

11. Semiconductor technology has now developed to the point where microprocessor chips are cheap, fast and reliable. It is cheaper and more efficient to handle information in digitised form. All PTTs are planning the conversion of their networks to digital transmission, thus enabling them to handle voice, data, text, video etc communications over the same network. In BT's case, this will eventually result in an Integrated Systems Digital Network (ISDN). New telephone exchanges are based on digital switching processes, and therefore are founded upon the same technology as digital computers. At the same time, computers are increasingly being linked into networks, and computer manufacturers therefore need expertise in the transmission of data over such networks. The convergence of computing and telecommunications technology is thus introducing telecommunications into computing and computer technology into telephone exchanges.

12. The PABX (Private Automatic Branch Exchange) is seen by many as the hub of the future office information system and computer suppliers have linked with telecommunications supply interests in order to gain access to digital switching technology. ICL have linked with Mitel while IBM has taken a 15% stake in Rolm, a US manufacturer of PABXs.
13. The linking of computers into networks will clearly provide extra service business for PTTs. Studies show, however, that even in the year 2000, more than 85% of the PTT service revenues in Europe will derive from voice services. Nevertheless, the provision of Value Added Network Services (VANS) which involve the transmission and manipulation of computer-held data will be an important area of growth for PTTs and in developing these, PTTs will seek associations with providers of specialised computing services. Computer manufacturers, through their proprietary hardware and software technology, can offer such services (eg Tandem with its "non-stop" computing) and so commercial links between PTT's and computer manufacturers are likely to become more common.

#### Technical standards

14. Data transmission protocols play a crucial role in telecommunications and computing systems. Inter alia, they define the way in which different pieces of equipment may communicate over a network. It is conventional to think of a hierarchy of technical standards, with the "lower level" standards defining the physical links between different parts of the system and the way that one part addresses another and the "higher levels" relating more to the way that the content of any communications is defined and interpreted. In the case of a PTT network, the higher level communication protocols employed over the network can be decided by the users themselves, but the PTT has control over the lower level protocols that control access to the network from users' installations, and can influence users' choice of equipment through the standards adopted within the network itself.

- Manufacturers of computer and telecommunications systems have either to develop their own standards or adopt those of other suppliers in order to ensure that all their equipment can intercommunicate. But with the rapid growth in information networks, with firms and other organisations needing to exchange information between pieces of equipment from different suppliers, there is a corresponding need for more generally accepted standards, preferably receiving international recognition. This has in recent years been an area of intense activity, whose importance has been recognised within DTI by the creation of the Focus committee and the IT Standards Unit.
16. IBM has developed a set of proprietary standards, called Systems Network Architecture (SNA), which will provide a substantial layered series of communication protocols. Because of IBM's world-wide dominance of business computing, SNA is already a de facto international standard. The principal non-proprietary alternative to SNA is the Open Systems Interconnection (OSI) model for communications, at present under definition by the International Standards Organisation. OSI theoretical standards are only now being published and an equivalent level of definition to that of SNA is not expected before 1985, and perhaps not then. It would then take supplies around two years to implement their version of a standard based on OSI concepts for new products. If the products had also to conform to that supplier's existing standards, this would become a four year programme.
17. The OSI approach potentially offers substantial technical advantages over SNA for truly distributed networks since OSI regards each contributor to the network as of equal importance. By contrast, SNA is tied to existing terminal/mainframe structures and assumes that one contributor controls the others. IBM currently shows no sign either of providing full support for OSI standards in its products or of adapting SNA to meet OSI standards. This policy may well be founded in technical difficulties, but there is no doubt that the existence of the proprietary SNA helps to support IBM's dominant market position.



18. There are advantages - particularly for small firms - in the dominant position of SNA in data transmission. Small suppliers of IT products and services need to be able to access major markets and they cannot afford to develop and promote new standards. By providing data links to SNA standards, they can potentially access the large majority of business computer users. OSI is not likely to affect this situation for some years.
19. The danger, of course, is that IBM can exploit SNA better than anyone else because it originated the concept - and can therefore develop new products and services that make full use of the capabilities of SNA. Moreover, it can through its market dominance create other de facto international standards, which will clearly suit its products better than those of its competitors, thus strengthening its market lead. The OSI initiative aims not only to provide a more appropriate technical basis for future IT standards than SNA, but also a supplier-independent framework in which other IT standards can be developed.
20. The most desirable situation in that it would provide an environment for fair competition and easy market access for new entrants, is clearly one where there are strong, well recognised standards, but not under the control of individual firms and not large in variety. The routes to achieving this lie (i) through making SNA an "open" standard, freely documented and available to all suppliers and (ii) through the OSI initiative. In subsequent sections we consider how these measures might be achieved.

#### TELECOMMUNICATIONS AND THE IT MARKET

21. PTTs, as the previous section showed, have a very large influence on the market for IT products and services. This comes from:
  - i. their monopoly over access to final users (and in the case of BT, we do not expect Mercury seriously to affect this for the next decade at

least). This provides suppliers linked to the PTT with a market nationwide;

- ii. their established organisational structure, which enables them to add new products and services on to an existing network of communications links, depots, maintenance staff, accounts centres etc etc. Even if no overt cross-subsidies take place, their way is smoothed - in contrast to that of the new supplier who has to establish such arrangements for himself (or through others);
  - iii. their guaranteed income from traditional voice services, which for the foreseeable future will dominate cash flows and which, in the case of BT, contribute to profits that rank with those of the largest industries and commercial enterprises (and which can be invested elsewhere in their operations);
  - iv. their ability to define the technical standards that users should employ if they wish to make connections through the PTT networks;
  - v. their deep technical understanding of the capabilities and potential uses and development of their network.
22. These market strengths may be exercised in association with other organisations. Thus a PTT may, for example, link with a service-providing organisation - in travel, banking, retail trade etc - in order to develop new services which exploit to the full the technological knowledge of the PTT and establish a dominant market position. Some travel companies have achieved success in the UK through their exploitation of telecommunications technology. Reuters has similarly demonstrated how, in the information business, the first firm to use telecommunications effectively may achieve market dominance. If that example were repeated in other parts of the news industry, there would be a threat to the free and diverse supply of information.

23. A PTT may also link with a hardware supplier who has access to proprietary technology in order to provide particular services. Users of that service may have to buy that supplier's products thus giving him market advantage. Even if other suppliers can provide equivalent products (eg working to the same interconnection standards), users will be attracted, other things being equal, to the original supplier who presumably understands the technology better than anyone else, and who will enhance it and provide new facilities on his equipment ahead of competing suppliers.
24. These kinds of linkages can be combined in many different groups. For example, service organisations using proprietary hardware could link with the PTT, leading perhaps to two kinds of market dominance.
25. We turn now to the specific case of BT. The examples cited above of firms establishing powerful market positions have come about in a period when BT (or the Post Office previously) was a publicly owned body, not entrepreneurial in character, and concerned more with equity of treatment than maximising revenues. BT is now, however, being transformed into an organisation which will deliberately exploit its strength in the market place in order to maximise its revenues. BT's activities in the past three years, and especially its move into the supply of office IT equipment, indicate its intention to establish a dominant position in many parts of the IT market.
26. The Government are relying on the licensing and regulatory framework under which BT will operate to achieve and preserve open competition in the market for IT products and services. A draft licence for BT has been prepared and OFTEL is being created to monitor compliance with its provisions and, by various means, to secure amendments in the light of experience. In principle, this must be the correct approach, and we support the intention to prevent cross-subsidies, to control the use made of proprietary intellectual property, etc. In practice, however, we have grave doubts about the effectiveness of OFTEL as a regulatory body over the range of BT's activities and we suggest that a more radical approach

may be necessary.

27. Our doubts stem from the following concerns:

- i. the market strength inherent in an organisation with a turnover of £6.4 billion, with virtually guaranteed income, and with so much of its equipment and investment relating to more than one aspect of the business. The problems of determining whether its commercial policies are fair in such circumstances are enormous;
- ii. the imbalance in resources available to OFTEL and BT, and particularly the small numbers of technical staff envisaged for OFTEL, since uncompetitive practices can be founded upon the technical aspects of equipment and services;
- iii. the difficulties inherent in:
  - a. identifying relevant intellectual property and ensuring that it is made available in a usable form;
  - b. detecting when VANS providers have exploited loopholes in standards or are providing extra services through non-standard protocols, in order to favour different users or suppliers;
  - c. controlling activities which combine the supply of products and services and the provision of different types of information (Figs 1 and 2 of "Making a Business of Information" illustrated the range of activities and regulatory approaches in the information industry; OFTEL will be concerned with aspects of many of these.)

28. The UK requires (i) an efficient basic communications network accessible to all, without discrimination, and (ii) competitive suppliers of VANS over this network and products that will link to it. The spur of competition through Mercury (whatever the actual performance of the

consortium) has already been successful in encouraging BT to provide the first. This "common carrier" role is the core of BT's operation. It is a natural monopoly, comparable to the operation of the national gas or electricity grids. It is in the provision of the second that the problem occur. And at their heart is the ability of BT to be a supplier of VANS and products, as well as basic services.

29. We have already pointed out that BT can control the UK market for many IT products and services. For its favoured suppliers, this brings benefits; a major contract with BT can in principle provide a launchpad for exports (just as the BBC contract gave Acorn its impetus). We are doubtful, however, whether an organisation so geared to the UK market is the right intermediary between suppliers and final users. Nor can we see BT as a major world force in IT. Moreover, it is already clear that BT is exploiting its position as both provider of equipment and provider of services to influence customers in their choice of equipment supplier. We suggest, therefore, that BT's hardware supply and manufacturing activities should come under severe scrutiny. A turnover limit - we suggest £20 million - might be set on activities outside the common carrier function with BT required to divest itself of sub-divisions that exceeded that limit.

- 30 We have also pointed out how the ability of BT to link with other organisation in providing VANS may effectively restrain competition in sectors far removed from telecommunications. Again, there may be benefits to the consumer in the short term, deriving from size, speed and efficiency of operation and convenience. But in the long run we cannot think that the user is best served by the ability of BT to create effective monopolies in services and we therefore consider that BT should be confined to a common carrier role. Such a move would prevent BT from deploying its market strength in support of any other organisation, be they hardware supplier or service provider by the creation of BT-led VANS. Hence there would be true competition in the supply of VANS, without any distortion caused by BT participation as a VANS operator. It would still

have a healthy and profitable future since voice services will continue to be the overwhelming source of its service revenues.

31. As a common carrier, BT would of course offer digitised data transmission services. The second element in a policy to create the maximum opportunities for competition in IT products and services would be the intention that these should use only internationally recognised and freely available standards . With the current dominance of SNA in data transmission networks, it is of course inevitable that these services should include data transmission to SNA protocols. But BT should use its market strength to persuade IBM to declare these "open" and provide all necessary information about them. A VANS operator could, of course, still offer services to proprietary standards, but BT's marketing power could not be used to support them.
32. We believe the above step to be immediately desirable. In the longer term, however, there is much merit in creating a truly product-independent set of standards and so Government should make every effort to accelerate the development of OSI standards and their adoption in all appropriate fora, with special reference to European markets, in order that UK equipment suppliers should be able to see a large market for OSI products.
33. In the long term, new competitors to BT may emerge. We have considered particularly the possibility that A T & T might wish to enter the UK telecommunications market. We see no evidence that they wish to do this, and no possibility that they would, even if licensed, achieve a significant stake in the foreseeable future. We have already commented that Mercury will be a minor player for many years.
34. There remains, however, the possibility that cable systems could offer effective competition to BT in the supply of telecommunications services to final users. We see this as a possibility, but only if BT itself does not impede the growth of this competition. Its involvement in the first cable franchises shows that it is aware of the market

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opportunities provided by these systems, and presumably of their potential for competition. A nationwide cable network, composed of local cable systems interconnected by gateways, could provide a genuine alternative to the BT network. However, if this is to be achieved, BT's participation in these networks will need to be constrained and, eventually, current policy on their interconnection will need amendment.

35. Our report "Cable Systems" envisaged a limited role for ET in cable systems; on further consideration we believe that this role should be very limited, in order to allow cable systems to offer genuine competition in providing links to the final user. We consider that BT should not be permitted to participate in cable operations other than as a provider of voice services.

IBM AND THE IT MARKET

36. We have outlined above (paragraphs 6 - 10) the powerful (and in most cases dominant) position of IBM in every national market for business computers. We have also emphasised that one effect of its market strength is the establishment of SNA as a de facto world communications standard. We see little prospect of significant erosion of IBM's market strength in at least the short and medium term; its success with the PC has demonstrated its ability to attract - by its reputation for reliability and service - customers in a totally different marketplace from its traditional products. None of the possible combinations of European, Japanese and American interests looks a plausible competitor. A principal UK policy objective towards IBM must therefore be to contain its market share to something like the present level, thus allowing room for other suppliers, some of whom, we would hope, would be UK owned. Such a policy requires (i) the avoidance of steps that will significantly enhance IBM's market strength and (ii) the creation of an environment in which other companies may compete fairly.

37. For the first, we refer to our suggested policy towards VANS. There is n

doubt that the use by BT of IBM equipment and proprietary standards in VANS which BT promotes will provide a boost for IBM. This can be avoided if BT is prevented from offering VANS. However, IBM itself might wish to become a VANS operator, with somewhat similar consequences. In certain markets, however, it falls within the statutory definition of monopoly, since it has more than a third of the relevant market. We suggest that if IBM does apply to be a VANS operator, the possibility of a reference to the Monopolies and Merger Commission should be investigated, since such a reference might well result in a decision against that extension of its market influence. (We note, however, that the deficiencies in statistics for the information industry to which we have previously drawn attention might prevent these markets from being defined adequately.)

38. The second aspect depends crucially on the development and widespread adoption of internationally recognised standards for data communications, and particularly OSI standards. UK (and European) equipment suppliers need a strong set of standards to provide the technical framework for an international market. SNA at present provides such a framework, but with the disadvantage of developments being controlled by a rival supplier and the standards being most suited to that suppliers' products. We have already pointed out the need for Government to give every support to the OSI initiative, and particularly to promote use of OSI standards within Europe. That is, though, a long term policy. The first need is to make the data transmission protocols that are currently of commercial importance freely available, ie to open up SNA. Government can assist this process by use of its purchasing power. IBM are sensitive about Government purchases and wish to establish a public sector user base; the opening up of SNA should be a condition of Government purchase. Secondly, once suitable standards have been developed the ability of Government computers to communicate using OSI standards should be a condition of purchase. It is evident that if by such pressure IBM could be persuaded to support OSI, that would guarantee the success of the OSI initiative.
39. There are, of course, factors that could slow the advance of IBM. It



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cannot make rapid changes to SNA because of its huge installed user base. This provides the opportunity for intelligent anticipation of changes. But its unique knowledge of SNA, coupled with its knowledge of its own operating systems, could enable IBM to exploit ambiguities or imprecision in the SNA specification in ways that would not affect its own equipment, but would prevent that of competitors from connecting to the network. Secondly, users may deliberately purchase from a range of suppliers in order to avoid dependence on one supplier. In order to have any major effect, however, this requires more co-operation amongst users than has hitherto been evident. Most like to buy from one supplier. If the competition never obtains any order, it cannot survive, and for most users, the attractions of buying from IBM, with its huge technical resources, are too great. "No DP manager was ever fired for buying IBM."

40. We therefore conclude that unless deliberate policies of the kind we have outlined above are introduced, and co-ordinated across Europe, all indigenous suppliers of IT equipment will be operating in a market framework defined by IBM - and we cannot believe that such a position is in the long term interests of the UK.

CONCLUSIONS

41. We have dealt in previous sections with the principles that should govern policy towards BT and IBM in order to create and maintain fair competition in the market for IT products and services. We have outlined the consequences of BT establishing links with selected suppliers over VANS and have forecast the continued market dominance of IBM even without forming an association with BT. It follows that any combination of these two organisations to provide services to third parties would be a most formidable market force, and such a combination should only be permitted after the most thorough study of its likely consequences.
42. For apart from all the questions of competition in IT markets that arise, issues of national sovereignty clearly enter. If SNA became established as

a national communications standard while still a proprietary standard, or IBM achieved a dominant share of the UK IT market, key aspects of the national infrastructure, and a major influence on UK suppliers of IT products, would pass out of the control of the UK Government. The recent letter from IBM to UK leasing firms emphasising their liability under US law to conform with the Export Administration Act, even within the UK, has illustrated this danger. The prospect of the UK being dependent on a communications network that uses the standards and equipment of a foreign-controlled firm is unlikely to be acceptable.

43. But our conclusions are more general - they relate not merely to the combination of BT and IBM but to the nature of the telecommunications market whether or not IBM is involved. We think there is a grave danger of BT becoming an "overmighty subject" and our proposal that it should be confined to a common carrier role is designed to prevent that from happening.
44. Neither IBM nor BT will readily accept the constraints that we propose. BT will probably claim:
  - a. that they will seriously reduce their prospects - and therefore their market value. However, we are satisfied that our proposals will have little effect on revenues - and may even increase profitability in the next few years; moreover, parts of BT such as Merlin would themselves have a sale value and it is not clear that the total market value of the present BT operation would be prejudiced by its being split into separate enterprises;
  - b. that they will prevent them being a world force in telecommunications - but we cannot see how this will develop from a background of being a UK monopoly provider and the UK has in any case a presence in overseas markets through Cable and Wireless;

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- c. that they will be a beneficial influence on IBM - but IBM operates on a world scale and although they might achieve some useful measures, they are unlikely significantly to affect its global policies.
45. IBM in turn will point to its commitment to the UK in terms of manufacturing and R & D facilities - but these will have to be put in the balance with the equivalent facilities of UK-owned firms. Moreover, if a similar policy were adopted by all EC governments, IBM's choice would be much more difficult. Our policy may well reduce IBM's UK investment below what it might otherwise be, but it will help to preserve that of other suppliers and the UK will still remain a good location for such functions.
46. There is, of course, no guarantee that our approach will prevent eventual dominance by IBM - market forces may yet mean that they can steadily drive out competition. If such a trend were observed, the Government would seek to obtain for the UK as large a share of IBM's manufacturing and R & D as possible. But control of the enterprise, and all that goes with it, would still lie outside the UK; it would be a second-best solution and we believe our proposals offer a preferable route for the UK.
47. To sum up, therefore, we believe - like the Government - that the national interest is best served by a free and open market for telecommunications services and associated products. Government therefore needs to be alive to the potential activities of all who can significantly influence these markets. Most attention must be paid to BT and IBM, and the immediate need is for a reappraisal of policy towards the privatised BT. The creation and preservation of genuine competition requires much more stringent limitation on BT's range of activities than the Government appears yet to have envisaged. The BT licence is yet in draft, and the legislative process still continuing; there is time to establish the correct foundation for the future. We urge rapid consideration of our proposals.

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Signed C N READ (Chairman)

M J ALDRICH

HENRY CHILVER

I H COHEN

C A DAVIES

D F HARTLEY

C G SOUTHGATE

Cabinet Office

15 March 1984.

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