



# FROM TELECOMMUNICATIONS TO ELECTRONIC SERVICES:

A GLOBAL SPECTRUM OF DEFINITIONS,  
BOUNDARY LINES, AND STRUCTURES

Robert R. Bruce  
Jeffrey P. Cunard  
Mark D. Director

Debevoise & Plimpton  
Washington, D.C.

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## FOREWORD

Worldwide, telecommunications technologies and services are evolving rapidly. Distinctions between various forms of electronic communication—once discrete—have now become blurred as a result. Telephony has merged with computer communications creating new opportunities, not only for national administrations, but for competitive service providers and users. The convergence of technology and the blurring of distinctions between services have placed growing pressure on domestic and international telecommunications structures and policies. Governments and corporations are faced with a range of vexing issues when considering future policies.

The International Institute of Communications (IIC), by carrying out this major Study of Telecommunications Structures (STS), has identified complex domestic and international issues and has pointed towards a number of realistic policy options. As a worldwide members' organisation the Institute is a most suitable forum for this kind of research and policy analysis. Both the particular way in which the study has been conducted and this final report are proof.

The IIC appreciates the support and encouragement of the law firm Debevoise & Plimpton, and in particular its partner, Robert R. Bruce, who directed the study. He and his colleagues, Jeffrey P. Cunard and Mark D. Director, have shown great intellect and insight throughout the project. We are indebted to them for their important contribution to the work of the Institute.

As President of the IIC it has been my particular pleasure to have had a direct involvement with this study as Chairman of the Steering Committee which consisted of representatives of the twelve sponsors. Our meetings produced lively discussion which contributed to the quality of this report. I would like to express my gratitude for their substantive involvement during the course of this eighteen-month study.

Thomas P. Hardiman  
President

## PREFACE

This study could never have been undertaken—let alone completed—without the assistance and support of dozens, if not hundreds, of people. Listing them with any hope of comprehensiveness is an impossible task. So many contributed—and in so many different ways.

Everywhere in the IIC there were many people who were critical to bringing the project to fruition. Of these, foremost is Tom Hardiman, the President of the IIC, who unfailingly supported the idea from the start and who agreed to take an active role as the Chairman of the Steering Committee of the study sponsors.

Throughout, the staff of the IIC offered invaluable support, guidance, and assistance. It was Bill Sweeney, then the Executive Director of the IIC, who, in the very beginning, first seized on the idea of attempting this study. It was his unflagging trust in us and in the importance of this study, and his dedication to realizing the potential of the IIC, that has made this study a reality.

During the final preparations and throughout the research and writing, John Howkins, IIC Executive Director since 1984, made available his extraordinary range of contacts and supplied an immeasurably useful perspective on global developments in telecommunications. The Officers and Trustees of the Institute also supported the idea, and made many significant efforts to assure that the participants in the study represented a diverse and international group. Pierre Brillard, coordinator of the IIC Section Française, and Mikio Momiyama, NHK, coordinator of the IIC's Japanese members, deserve a special mention.

All these contributed to what is hoped will be a more lasting result of the study—the emergence of the IIC as a forum for discussion of the important telecommunications policy issues of the coming decade.

It is no overstatement to say that, without the extraordinary interest and administrative support offered by the sponsors, this study simply could not have been undertaken. It would be remiss not to mention the contributions of the sponsors and of their representatives.

Citicorp, at the outset, through Eduard Berlin, Citibank Vice President, early on expressed an interest in the study and worked closely with the IIC to bring it about. Derrick Nicholas, Citicorp Vice President in Brussels, offered useful advice and insightful commentary throughout the work. As well, Bill Halley in Citibank's New York office, Kathleen White, Deborah Tumey, Dan Sullivan, and others in Citibank offices worldwide offered time, effort, and expertise.

Similarly, Reuters, through the interest of its Managing Director, Glen Renfrew, took an early interest in and then supported the work in every practical way. In particular, a strong leadership role was taken by Peter Smith with the support of his colleagues Tony Cornish in London and Mike Salamon in Tokyo.



Cable & Wireless, likewise, contributed significantly, as a result of the initiative of Joe Crouch, its Director of Marketing. Incisive advice and counsel were supplied by David Wilkinson, Head of the Strategic Studies Group, along with significant contributions by his colleagues Peter Moulson and Paul Kirby.

In the United States, AT&T offered generous assistance and ongoing advice through its representatives, IIC member Marc Epstein and Paul Quinlan. In addition, Dwight Jasmann, Director, International Correspondent Relations, AT&T Communications, and Bobby Boone, Director, International Policy and Plans, AT&T Communications, made critical contributions during the effort.

The Canadian Department of Communications, of course, has been involved in many IIC activities of significance. Over the years, the DOC has contributed financial backing, key personnel, and the expertise of its extraordinary staff. Not surprisingly, then, the Canadian contribution is unique in scope. Bill Montgomery, Director, International Relations, made the original decision to participate. Vince Hill, Director General, Telecommunications Policy Branch, who has had the lead role in the Department's recent efforts to draft a comprehensive new telecommunications statute, offered invariably wise and insightful counsel on Canadian and international developments as the DOC's representative to the Steering Committee of sponsors. Leonard Bellam, Bob Tritt, and many others in the Department also made significant and noteworthy contributions.

Beyond all this, however, the DOC also took an active role in setting up meetings in Canada at the highest level. At the annual meeting of the Canadian chapter of the IIC, in June 1985, it organized a symposium, chaired by IIC Trustee David Golden, Chairman of the Board of Telesat Canada, to discuss the issues raised in the Canadian country report.

In Japan, Nippon Telegraph & Telephone and the Japan Information Processing Development Center (JIPDEC) were both active sponsors and worked in close conjunction with the Japanese chapter of the IIC to arrange meetings with the broadest spectrum of public and private sector decisionmakers in the telecommunications sector. Since June 1984, when the initial interviews were conducted in Japan, the extraordinary and rich participation of Japanese IIC members and other important figures in the field set the tone and standard for the meetings in other countries. Innumerable staff members at NTT made substantial contributions to the work; however, particular mention should be made of Nobuki Hori, Kiyotaka Matsubara, and Kageo Nakano. At JIPDEC, Toshihiko Nishiwaki, Executive Managing Director, offered sage insight into Japanese telecommunications policy and institutions; the active interest of Takao Nakayama, Managing Director, was greatly appreciated, as were the important contributions of many others affiliated with that organization.

In Finland there was broad-based participation by a consortium of sponsors, with the Finnish effort being coordinated by Seppo Sisatto, Vice President of Mainos TV and a long-time member of the IIC. The presence of

Finland in this study is ample testimony to its special and innovative place in global telecommunications and to the enthusiasm and vigor of the Finnish members of the IIC. Pentti Hanski, the now-retired President of MTV, spurred Finnish involvement. The Economic Information Bureau joined the work and was well-represented by Leif Fast, its Executive Director, and by Sakari Kumpulainen.

There was extremely active participation, as well, by Nokia Corporation, the largest industrial corporation in Finland. Throughout Nokia there was great interest and involvement in the study. Nevertheless, particular mention should be made of Harry Mildh, the Executive Vice President of Nokia Corporation, Kurt Wikstedt, the now-retired President of Nokia Electronics, and his successor Timo Koski; also key to the work in Finland were Nokia's Jorma Nieminen, President of Mobira, its rapidly expanding mobile communications subsidiary; Pentti Korkka, Vice President, Corporate Planning; Viljo Hentinen, Director, Research and Development; Juhani Vuori, Director, and Jan-Peter Paul, Manager, Corporate Planning and Business Development, who were all unstinting in making their time and good counsel freely available.

Worthy of special mention were the efforts of the Finnish chapter of the IIC in arranging an informal symposium on Finnish telecommunications issues in which industry leaders were brought together one summer afternoon in August 1984.

In Germany, the role of the Deutsche Bundespost as a sponsor was coordinated by Hartmut Nitsch and Dr. Karl-Heinz Neumann under the direction of Dr. Otto Kaiser, Ministerial Director, Deutsche Bundespost. The Bundespost freely made available many key members of its staff and facilitated meetings with industry leaders and policy advisers who had a wide range of views, some of which were, indeed, critical of the Bundespost itself. Of particular note was a May 1985 informal meeting of the German and Japanese sponsors that took place during a visit by a Bundespost delegation to Japan. Dr. Neumann, it should be stressed, is an extraordinarily prolific and incisive observer of developments in Germany and elsewhere; the study benefited greatly from his insights and perspective.

Of equal importance in assuring that a wide range of views was reflected in the work was the French Direction generale des telecommunications (D.G.T.); its Director General, Jacques Dondoux, has also taken an interest in other IIC activities in the past. The representative of the D.G.T. was Olivier Froissart, of the Direction des affaires industrielles et internationales, which is headed by Jean Grenier, one of today's keenest observers of the global telecommunications scene. Many in the top management of the D.G.T. were exceptionally generous in making time available for sharing their perspectives on developments in France and in other nations. Warranting special mention is Jean Voge, a long-time member and trustee of the IIC and counselor to the D.G.T. on strategic matters, whose insights and advice were especially appreciated.

Montedison, the Italian multinational enterprise, made an exceptionally important contribution by offering the perspective of a large European user of telecommunications services. Participating actively in the study was Iniziativa ME.T.A., a division of Montedison that integrates the company's information and service-related business activities. Montedison's involvement was led by Mathilde Bernabei, ME.T.A. Director of Strategies and Development, with the collaboration of Renato Mariano, and of Daniele Fano of F.O.R., Montedison's research and consulting arm. Dr. Fano's participation in the study and, in particular, his contribution to its analysis of European issues were especially noteworthy. Montedison also made two unique contributions by arranging, through F.O.R., a special seminar in Rome in February 1985 and, thereafter, a press briefing in Milan on the IIC and the study in April 1985.

Finally, but by no means last in importance, was the involvement of the Commission of the European Communities through its Task Group on Information and Telecommunications Technologies, which is headed by Michel Carpentier. Dr. Herbert Ungerer, the head of Strategy and Studies of the telecommunications directorate of the Task Group, was a forceful advocate for incorporating a European perspective on the issues raised by the study. Upon his suggestion, and with his encouragement, a number of additional interviews with policymakers in Belgium, Luxembourg, and the Netherlands were arranged to focus more clearly on the European dimension. In April 1985, a special seminar was arranged in Brussels to discuss the future development of European telecommunications.

When cumulated, this recitation of the sponsors' participation, incomplete as it necessarily must be, can only begin to convey their tremendous involvement in the study. At the same time, the sponsors recognized throughout the work that the perspectives and analysis of the study must remain independent.

From the outset it was understood that ultimate editorial responsibility would rest with the authors of the study and with the IIC. The sponsors were scrupulous in observing this understanding; thus, the project benefited from their enthusiastic and active role in setting up meetings and in reviewing plans, outlines, and drafts, while they respected its unique nature as a report of an independent, nonprofit, international institute. The final product, therefore, does not necessarily reflect the views of the sponsors, either individually or collectively, or, indeed, of the IIC.

The independence of perspective also results from the diversity of interests reflected in the group of sponsors: carriers, users, policymakers, and regulators from Europe, Japan, Canada, and the United States. Ultimately, the sponsors resolved that all points of view should be expressed, with the goal of assuring maximum objectivity. The expectation was that the final document would serve as a point of departure for additional discussion and future dialogue.

No review of the study would approach completeness if it failed to acknowledge the help of many others who were not sponsors but who pro-

vided documentation, offered insights, and gave so much of their time. Although not able to recognize everyone who contributed, a few individuals and groups might be mentioned and may suggest the scope and range of assistance received.

George McKendrick, Chairman of the International Telecommunications Users Group (INTUG), and Ernie Weiss, INTUG's President, offered advice and counsel and provided user group contacts. On several occasions, Henry Ergas and Ann Reid of the OECD shared perspectives on the issues addressed by the study and readily agreed to participate in the April 1985 Brussels seminar. Andrea Caruso, Secretary General of Eutelsat, and David Leive, General Counsel of Intelsat, offered useful perspectives on the future of regional and transoceanic satellite systems. Kent Combs, of IBM Europe, offered his insights and provided access to information and personnel in the IBM organization.

In the United Kingdom, Bill Wigglesworth, the Deputy Director of the Office of Telecommunications, along with Nick Hartley and his colleagues at OFTEL, and Jim Cowie, Director, Strategic Issues, of British Telecommunications, were especially generous with their time. In the Department of Trade and Industry, of special assistance were Ian Ellison, Assistant Secretary, Telecommunications Division, his successor, John Avery, and Greg Faulkner, Assistant Secretary, International Telecommunications.

In Japan, gracious with their time and energies were Yasuo Iwasaki, Chief Secretary to the Prime Minister, and Hirofumi Nakasone, both of the Office of Prime Minister Nakasone; Akira Konishi, Machinery and Information Industries Bureau, Ministry of International Trade and Industry; Kaoru Kanazawa, Director, Information and Industry Research Department, Ministry of Posts and Telecommunications; Seisuke Komatsuzaki, Managing Director, Research Institute of Telecommunications and Economics (RITE), and his colleagues Etsuzo Masuda and Hirofumi Takahashi. RITE is one of the most important research centers for telecommunications policy and the generous cooperation of that organization and its staff was particularly appreciated.

In Finland, the individual contributions were so numerous and significant that they virtually defy specific mention. Of very special note, however, were the time and perspectives of Christoffer Taxell, the Minister of Justice and the Chairman of the Cabinet Committee on Communications; Matti Luttinen, Minister of Communications; Dr. Pekka Tarjanne, the Director General of the Finnish PTT; Reijo Svensson and his former colleague (now with Nokia) Gunnulf Martenson, of The Association of Telephone Companies in Finland; Osmo Wiio, Professor, University of Helsinki; Ulla Sirkeinen, of the Confederation of Finnish Industries; Ilkka Pulkkinen, Managing Director, and Juhani Salenius, Director, of the Finnish Employers' Confederation; Veikko Loyttyniemi, Managing Director of The Finnish Newspaper Publishers Association; Jaakko Hannuksela, Vice President, Planning, Sanoma Corporation; Jukka Liedes, Special Adviser, Ministry of Education; Pekka Nurmi, Director of Legislation, Ministry of Justice; Jukka

Ojala, Matti Reunanen, and Sirkku Sivonen of the K.O.P. bank; Jaakko Iloniemi, of the Union Bank of Finland; Sakari Kiuri, Director General, Finnish Broadcasting Company; and Eero Pilkama, President of MTV, along with many of his top managers. The broad participation of Finnish leaders in industry and government is deserving of special note because it afforded the unique opportunity of providing access to almost all of the key decisionmakers in the telecommunications sector.

In the Federal Republic of Germany, the contributions of many individuals should be recognized. Special mention must be made of Dr. Jurgen Muller, Deutsches Institut fur Wirtschaftsforschung; Dr. Wolfgang Hoffmann-Reim, Professor, Public Law, Hamburg University; and Dr. Joachim Scherer of the Institute for Public Law, Johann Wolfgang Goethe University, all of whom gave freely of their time, insights, and documentation.

Finally, in France, a further note must be made of the role of Henri Pigeat, the President Director General, Agence France Presse, a long-time trustee of the IIC, and head of the IIC Section Francaise. With Henri Pigeat's encouragement and active support, Pierre Braillard played a special role in arranging meetings and offering an array of significant notes and observations on the French telecommunications scene as well as the broader issues addressed by the study. Pierre's incisive contributions are reflected throughout the French country report and the entire study.

Any mention of individuals who were important to the progress and completion of the study would be incomplete without highlighting the contributions of colleagues at Debevoise & Plimpton. Of special note are my partners, who tolerated my absences but approved the enormous investment of the firm's resources—including my time and that of my colleagues. They recognized the significance of the IIC, the importance of the issues addressed in the study, and the special opportunity of having an international law firm make a contribution to a dialogue on those issues.

Given this perspective, the firm made it possible for the project to work for six months with Philippe Peters, a young Belgian communications lawyer. Philippe gathered material on developments in the Benelux countries and was instrumental in setting up some important meetings in Brussels. The project benefited substantially from his perspective as a European lawyer and as a result of his assistance in reviewing background materials for the French and other country reports.

Functioning as a hub for the study in France and on the Continent, collecting documentation, and participating in many meetings, was the Debevoise & Plimpton European office. In particular, my partners in Paris, Jim Kiernan and Dominique Blanco, and their associate, Ann Baker, were of special assistance.

The study would never have seen the light of day if several members of the Debevoise & Plimpton staff had not worked literally night and day on at least two separate and extended occasions. Particular thanks for their special

dedication and professional skills are owed to Donna Kinnaman, Elaine Foster, Jessica Herman, Helen Fiori, Mike Howell, and others who were called in when needed.

Finally, enough cannot be said about my co-authors and colleagues, Jeff Cunard and Mark Director, who each made immense contributions to this document. They drafted country reports, edited and honed the text, and collaborated in the analysis that set out the framework for the study. With the background of their work on this study and with their analytic and writing skills, both Jeff and Mark, though not yet in their thirties, must surely be among the most talented and promising young communications lawyers in this country.

R.R. Bruce  
Washington, D.C.  
August 1985

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# CHAPTER I

## SUMMARY

### I. OVERVIEW AND INTRODUCTION

Over the last few years, telecommunications and information policies have been reviewed in several major industrialized countries. Such policies are now seen as having great impact on productivity, economic growth, and on the economic, if not the political, relationships among the United States, Canada, Japan, and Europe. Policymakers perceive that technological and economic pressures are forcing change and that the status quo cannot be maintained.

Technological developments have created the potential for new services. Clusters of computers with incompatible standards can be linked together. New electronic markets for information, commodities, securities, and other services are competing with traditional markets—stock and commodities exchanges. Satellite networks for data and other services are leapfrogging national terrestrial networks and challenging past pricing policies.

Such new services cannot easily be fitted into old legal and regulatory schemes. Thus, the emergence of new services and service providers requires reviewing both industry and institutional structures, as well as the mechanisms for the oversight and control of the industrial sector.

So, too, economic pressures are forcing an end to historic subsidies and an upward realignment of prices affecting the general public. Policymakers are being confronted with the agonizing dilemma of weighing the short-term political costs of implementing new price structures against the long-term economic benefits likely to result therefrom.

It has, however, become increasingly clear that inaction and indecision are not viable policy responses to these pressures.

Similarly, in the international context, policymakers cannot choose inaction. The pace of change at the national level threatens to disrupt and destabilize traditional arrangements by which international telecommunications services have been provided. If anarchy and conflict are to be avoided, and stable relationships in international telecommunications assured, efforts to address an array of problems are needed on an urgent basis.

This study is an attempt to describe in a comprehensive way what is happening in eight major industrialized countries, what are the international consequences of those developments, and how international economic and technological pressures are requiring changes in national policy. The study is intended to assist government policymakers, users, and service providers in deciding how to respond in an era of unprecedented change.



## II. GLOBAL CHANGE AND THE PROCESS OF REVIEW

Policies are being reviewed globally as a result of significant changes in telecommunications structures and policies in major industrialized countries.

In the U.S., AT&T has been restructured as a result of the settlement of the antitrust suit brought by the Department of Justice; the Modified Final Judgment ("MFJ") embodying the terms of that settlement has become a regulatory instrument rivaling the Communications Act of 1934 in establishing the industry structure and service arrangements. In the United Kingdom and Japan, new telecommunications laws were enacted in 1983 and 1984, respectively, and in both countries the previously dominant service providers, British Telecommunications ("BT") and Nippon Telegraph & Telephone ("NTT"), will face stiff challenges from new entrants providing both telecommunications facilities and services.

In Canada and Finland, telecommunications laws dating from 1906 and 1886, respectively, are under high-level review. Similarly, in the Federal Republic of Germany, a governmental commission is studying the future of the Deutsche Bundespost. In Italy and France, and the Benelux countries, the evolution of telecommunications policy is being monitored closely. And, as to Europe, the development of telecommunications and information services is one of the highest priorities of the Commission of the European Communities.

It is, moreover, becoming increasingly apparent that shifts in policy are emulative. Deregulation and divestiture in the U.S., along with privatization and liberalization in the U.K. and Japan, have effects on other nations. Thus, one country's policies and policy shifts are inextricably linked to the development of the industrial sectors and the formulation of policy elsewhere.

Beyond the emulative and inexorable nature of the changes that are taking place, several other forces are at work in pushing or reshaping traditional telecommunications policies. Some of these pressures are economic, some technological, others political or ideological.

The pricing of telecommunications services is undergoing significant review as a result of structural changes in the U.S., Japan, and Europe. The price of services is moving toward costs, thereby undermining historic pricing subsidies. Although these changes are occurring at the national level, they are exercising a gravitational pull on adjacent countries, with economic consequences rippling outward on a regional and international basis.

The consequences of these economic forces must be addressed in a complex web of institutional mechanisms that filter and focus the political and social pressures that are brought to bear on pricing decisions. Application of those pressures traditionally may have caused the pricing of some services—international and long distance, for example—above cost. Such policies have been intended to maintain low prices for local exchange services and to