

APPENDIX

International Telecommunications in Japan: A Chronology (1981-1997)

1981

January Mr. Hisashi Shinto became President of the NTT Public Corporation (old NTT).

October MPT started to prepare new "Common Carrier Law" to allow telecommunication service providers other than NTT and KDD to enter into the market.

1982

January U.S. government requested Japanese government to deregulate VAN services including electronic mail, transmission of business data, and connection of computers of different manufacturers.

KDD announced to start international public data transmission service (Venus-P) soon.

The Second Ad Hoc Committee for Administrative Reform recommended promotion of further deregulation of circuits for data transmission.

May The Fourth Division of the Second Ad Hoc Committee for Administrative Reform (chaired by Professor Kan Kato of Keio University) submitted a report to the chairman of the Committee on reforming the three public corporations, i.e., Japan National Railroad (JNR), NTT, and Japan Tobacco Corporation (JT), and other governmental agencies. (i) JNR shall be divided into six or seven regional corporations. Each corporation shall be privatized. (ii) NTT Public Corporation shall be privatized and reorganized into one long-distance corporation and multiple local-service corporations. The Japanese government shall initially hold the shares of the divided corporations; they shall be sold to the market in the future. (a) New carriers using satellite or optical fibers shall be allowed to enter into the long-distance telecommunication market. (b) By the time NTT is reorganized, the department of terminal sales, the data communication department (NTT's VAN department), and the facility-maintenance department (or a part of it) shall be divested. (iii) Japan Tobacco Corporation shall be privatized. (iv) Most of the special governmental agencies shall be reorganized.

July	The Second Ad Hoc Committee for Administrative Reform (chaired by Mr. Toshio Doko) sent a report to the Prime Minister on a set of plans for reconstructing the government budget, reforming and strengthening the nations' agricultural production, reforming pension plans, reforming administration of local governments, and reconstructing the three public corporations: JNR, NTT, and JT. The report follows the recommendations by the Fourth Division of the Committee except that the item (ii)(a) in the report of the Fourth Division is revised so that new entries to be allowed to the long-distance market are not necessarily limited to satellite or optical-fiber carriers.
August	MPT announced a report in which competition should be introduced into international telecommunication market. The price of KDD's share immediately dropped by total of 550 yen on August 30 and 31.
1983	
June	KDD filed with MPT an application for integrating international data transmission services into one category called VENUS-P and lowering the price of the service by 8-14%. The application is expected to be granted by MPT.
August	MPT made it clear that it is investigating possibility of introducing competition in Japan's international telecommunication market. MPT pointed out that the current international telecommunication market is monopolized by KDD and the price of international communication in Japan is much higher than in other countries.
	It is reported that NTT is planning to establish a subsidiary, to be called NTT International Corporation, for entering into a wide-range of telecommunication markets abroad.
December	Report from Washington stated that Japanese government would allow U.S. VAN providers to enter into Japanese market.
1984	
January	Council of Telecommunications, formed by MPT, recommended to the Ministry that (i) competition should be introduced to the telecommunication market, (ii) in particular, NCC's be allowed to enter into long-distance market, (iii) competition should be introduced in international telecommunication market, and (iv) regulations on domestic

telecommunication be lifted.

February MPT announced an outline of new Telecommunication Business Law and new NTT Organization Law. In the proposed Telecommunication Business Law, Type I and Type II carriers are distinguished: Type I carriers will be under regulation in entry and exit with approval by MPT. Foreign ownership of a Type I carrier is allowed within one-third limit of the total share. Price of Type I carriers service is to be approved by MPT. Type II carriers will be composed of general Type II carriers and special Type II carriers; special Type II carriers need an approval of MPT to enter. Foreign ownership of Type II carriers is allowed within one-half limit of the total share. On the other hand, the proposed NTT Organization Law would make NTT to be a new private corporation. NTT will be regulated by MPT heavily: it will be responsible for universal service and basic research. Its business plan, appointment of executives, and other matters are to be approved by MPT. The Japanese government will hold a predetermined proportion of the total share of NTT; no foreign ownership of NTT's share would be allowed.

MPT announced that VAN service to be supplied by Type II carriers defined in the proposed Telecommunications Business Law would include not only data transmission but also telephony, facsimile transmission, and telexes, i.e., virtually all telecommunication services. This is a move which is more radical than was expected previously. MITI opposed to the new Telecommunications Business Law proposed by MPT; MITI stated that no approval should be required for special Type II carriers to enter into the market.

U.S. Department of Commerce and USTR made it clear to oppose any regulations on VAN business to be done by Type II carriers. Specifically, U.S. government requests that the requirement for approval of special Type II carriers be removed and no regulation be put on holding part of the share of Type II carriers by foreigners.

April LDP made a decision on the two new laws proposed by MPT: (i) special Type II carriers be asked to report to MPT. (ii) No restriction on foreign ownership of a Type II carrier be imposed.

Cabinet approved the two new telecommunications laws be sent to the Diet. A special Type II carrier needs to register itself with MPT when entering into the market. No

restriction on foreign ownership would be imposed. Distinction between Type I and Type II carriers will be determined not by MPT ruling but by Cabinet ruling. Furthermore, the two laws will be reconsidered for revision, if necessary, within three years.

October MPT announced that it is planning to form a corporation, a competitor to KDD, to handle international telecommunication service.

Diet approved the two new telecommunications laws, the Telecommunications Business Law and the NTT Organization Law.

1985

March MPT proposed to let VAN carriers (Type II carriers defined by the new Telecommunications Business Law) to provide telephone service by connecting its private lines to NTT's public switching network. Mr. Shinto did not oppose to this proposal.

MPT and MITI agreed on drawing a line to classify special Type II carriers from general Type II carriers according to the new Telecommunications Business Law. Special Type II carriers are carriers operating with circuits capacity which is greater than 500 circuits with 1200 bps. It is reported that U.S. government also approved it.

April The new Telecommunications Business Law and the new NTT Organization Law were effected; NTT was privatized. The new NTT will start with the capital of 780 billion yen and 320 thousand workers; it means that NTT will be the largest corporation in Japan. Mr. Shinto will be the first President and Mr. Yasusada Kitahara will be the first Vice President.

KDD cut prices of telephone service.

June Three NCC's, DDI, JT, and TWJ, were allowed to enter as Type I long-distance operators.

July MPT decided to deregulate VAN business including entry by Type II carriers. MPT is said to attempt to cooperate with U.S. and U.K. to neutralize CCITT recommendations not to allow VAN use of international private lines.

1986

January

NTT is reported to have created 23 subsidiaries since April 1985, when NTT was privatized. NTT plans to continue establishing more subsidiaries. NTT International, NTT PC-communications, Japan Information and Communication (a joint venture with IBM Japan) are among the largest subsidiaries.

June

A group of corporations including Toyota Motor Company, C. Itoh Trading Company, General Motors Co. of U.S., C&W of U.K. is planning to establish a new international common carrier. The plan is expected to clash with MPT's intention to allow only one international carrier in addition to KDD.

September

KDD cut prices of telephone call, telex, private lines, and others.

MPT decided to let international VAN carriers to enter into the international VAN market as RPOA (Recognized Private Operating Agency) to avoid CCITT's restrictions against non-RPOA's using private lines for VAN business.

1987

March

MPT is moving to merge two prospective international telecommunication carriers (ITJ, International Telecommunications Japan, and IDC, International Digital Communications). ITJ is formed by a group including Mitsubishi Trading Company, Mitsui Trading Company, Matsushita Electric Corporation, Bank of Tokyo, and other trading companies. IDC is formed by C&W, C. Itoh Trading Company, PTI (Pacific Telesis International, a U.S. company), Toyota Motor Company, and other banks and electronic manufacturers of Japan. C&W strongly opposes to MPT's plan to merge the two.

MPT asked IDC led by C&W of U.K. to agree with its plan to merge with ITJ to form one international telecommunication carrier in exchange for C&W's being given the right to construct a new cross-Pacific marine optical cable. IDC agreed but ITJ rejected this proposal.

May

The Diet approved revision of the Telecommunication Business Law to liberalize international VAN.

International "free dialing (800-service)" is started between KDD and AT&T; KDD, after having reached an agreement with AT&T, obtains an approval of it from MPT.

June KDD started international ISDN services.

July MPT announced that it would accept application by ITJ and IDC for establishing international telecommunication companies. ITJ is a consortium of 50 companies led by Toyota Motor Corporation and three major trading firms: Mitsubishi, Mitsui, and Sumitomo Trading Companies. IDC is a consortium of 35 companies led by Cable and Wireless of U.K., Pacific Telesis of U.S., and C. Itoh Trading Company.

December NEC and Network Information Service, Inc., started international VAN service between Japan and U.S.

1988

January KDD cut price of private lines and data transmission service.

KDD started digital exchange service.

MPT started revising NTT Organization Law. Division of NTT into two or more companies for long-distance and local services is to be considered.

July NTT divested its Data Communication Department to form "NTT Data Communications, Inc."

September KDD cut price of telephone calls and facsimile service.

November KDD cut price of computer access service (Venus-P).

1989

April International Teleway Japan (ITJ) started service of private lines.

MPT announced a report prepared by members of the Telecommunications Council. The report was written by members of the Council on interviewing experts of U.S. telecommunication. The report summarizes that the U.S. telecommunication industry is still in transition after the 1984 divestiture; it is, however, undeniable that the overall

level of services has been increased through competition. Comments are added to this report that the members of the Council who wrote the report represent MPT's view that NTT should be divided.

NTT disclosed a view that division of NTT would result in a significant increase in local rates. It is reported that MPT and NTT are disagreed on this point; the two have different views on dividing the overhead cost of NTT between local and long-distance services. NTT has stated that only 27% of its total revenue comes from its local service, while MPT has stated that approximately 48% of NTT's total revenue should be accounted for its local service if the charge for local service needed to use long-distance circuits is included.

TPC-3 is opened.

International Telecommunications Japan (ITJ) started private-line services.

International Digital Communications (IDC) started service of private lines.

KDD cut price of TV conference service.

KDD started ISDN service between Japan, U.S., and U.K.

KDD cut price of private lines by 17%.

October IDC and ITJ started international telephone services.

The Telecommunications Council (chaired by Mr. Eiji Toyota, President of Toyota Motor Company), a council under the Ministry of Posts and Telecommunications, filed an interim report with MPT on Japan's telecommunication industry in the future. A final report is due March 1990. The interim report states that (i) in order to promote fair competition between NTT and NCCs, reorganization of NTT should be considered. (ii) In the immediate future, arrangements should be made to facilitate equal access between telecommunication providers, to disclose information of NTT's network, and to form a consistent set of policies for the nation's telecommunication network. (iii) The report points out that introduction of ISDN services will raise questions how to facilitate fair competition and how to set appropriate prices. (iv) The report also states

that the performance of NTT since the 1985 reform in improving its managerial and operational efficiency is not satisfactory; specifically, the size of NTT's labor force is still too large. (v) The report recommends three alternative ways to reorganize NTT: (a) The entire NTT be divided into multiple regional companies, (b) NTT be divided into one local company and one long-distance company, and (c) the NTT be divided into one long-distance company and multiple regional companies. The report also gives an estimation of the cost of each of the alternative ways for reorganization.

The price of the NTT share fell to a level lowest since the 1985 privatization. It is believed that the fall is a consequence of the report of the Telecommunications Council.

1990

March

The Telecommunications Council, an MPT committees, filed the final report to the Ministry. The report states that NTT should be divided into a long-distance corporation and a local corporation by 1995, which is the time limit for NTT to complete digitalization of its long-distance network. It is further proposed that mobile telephone services, including automobile telephones, be divested within one or two years. The long-distance corporation shall be under no regulation.

Mr. Akio Yamaguchi, President of the NTT, expressed a view against the proposal of the Telecommunications Council to divide NTT for the reason that dividing a network would lower the quality of its service. He expressed, however, that divestiture of mobile telephone services will be considered by NTT.

Ministry of Posts and Telecommunications made a decision to give up seeking a government-level decision to divide NTT by the end of March 1990, the end of the 1989 fiscal year. Instead, MPT announced that it would ask the Telecommunications Council to investigate how to implement reorganization of NTT including divestiture of its mobile telephone unit. This means that MPT's proposal to divide NTT was not approved by the Cabinet Meeting.

The Japanese government announced a plan to postpone decision on the issue of reorganizing NTT until 1995. Instead, the government ordered NTT to follow a number of instructions to promote fair competition especially in the long-distance telecommunication market.

April	IDC started ISDN services.
July	MPT made a decision to approve type II carriers' use for telephony of private lines directly connected with public networks.
September	KDD started discount of international telephone services called "dialing-coupon services (monthly discount of telephone fees)."
1991	
June	KDD started international VPN (virtual private network) services (called VIRNET).
1992	
November	TPC-4 was opened.
December	ITJ started ISDN services.
1993	
April	Iridium Japan was established by DDI, etc.
September	KDD joined with "World Partners Company" together with AT&T, Singapore Telecom, etc.
1993	
August	Japan Satellite Systems was established for satellite communication.
1994	
May	KDD started "Family Talk" discount (discount of telephone fees for calls to specified numbers).
June	ITJ Intelligent Telecom was established.
September	ITJ and IDC followed KDD's Family Talk by starting "Super Family Line Service (ITJ)" and "Family Plus (IDC)," respectively.

1995

February	Japan Satellite Systems obtained a license for international telecommunication services.
April	Japan Satellite Systems started international private line services. MPT established a committee for studying the issue of dividing NTT. This effectively started wide-range debates on the issue. MPT approved domestic supply of "public-private" connection services.
July	KDD, ITJ, and IDC started breakout services (the service connecting the public network at the destination country of international private line to a third country).
September	Pacific Century Corporate Access (PCCA) (from Singapore) obtained type I carrier license; PCCA plans to supply international private line services via a satellite.
November	PanAm Sat (PAS) obtained type I carrier license.
1996	
April	MPT established a committee within the Telecommunications Council to investigate the issue of dividing NTT.
September	The Telecommunications Council issued a report stating that (1) NTT be divided into two regional telephone companies (NTT East-Japan and NTT West-Japan) and a long-distance company (NTT Long-Distance). The two regional companies would be "special companies" under heavy regulations by MPT, whereas NTT Long-Distance would be a "pure" private company allowing to provide domestic long-distance and international services. (2) Telecommunications Business Law should be revised to include rules for interconnection with NTT's local access facilities. (3) KDD would be allowed to supply not only international but also domestic long-distance services. A conference "Talking Net" was held in New York, U.S.A., by specialists in Internet telephone services. Representatives from carriers expressed views to allow Internet telephone services.
October	KDD announced that it would start resale of international private lines through one of

its subsidiaries by leasing from foreign carriers.

MPT approved domestic telephone services by connecting public-private-public lines.

It was reported by media that there are currently about 15 to 20 "International call-back providers" serving Japanese users. MPT had announced that it would follow the ITU directives agreed upon in June 1996.

Japan Telecom (JT), a domestic long-distance carrier, and International Telecommunications Japan (ITJ), an international carrier, announced that they would merge to form a new Japan Telecom.

November It was reported by media that at least six international providers use international private lines of 45 MPPS for servicing Internet connection between Japan and U.S. Most of these private lines are understood to be leased from non-Japanese providers.

NTT expressed the view that it wishes to enter into the international telecommunications market, and KDD that it wishes to get into domestic long-distance market.

DTI, an Internet service provider, announced to start Internet fax services, which is cheaper than KDD's fax services by approximately 30%.

December MPT and NTT reached an agreement on the issue of restructuring NTT; a holding company (the parent NTT) will be established under which the present NTT be divided into NTT East-Japan, NTT West-Japan, and NTT Long-Distance-International. The ruling LDP approved this plan. The decade-long debate on the divestiture of NTT is effectively concluded by this agreement.

It is reported by media that domestic public-private-public line services are now commonly provided in Japan, and the main customers are from large corporations.

1997

January AT&T Communication Services, a Japanese subsidiary of AT&T, announced to supply call-back services in Japan; the price would be approximately one half of KDD's tariff.

RimNet, an Internet service provider, announced that it would start domestic Internet telephone services in March 1997 with collaboration with GXC (Global Exchange Carrier) of U.S. GXC had formed a team of international Internet service providers to supply Internet telephone services in 20 to 40 countries.

February The Cabinet approved MPT's plan that (1) would divide NTT according to the MPT-NTT Agreement of December 1996, (2) to allow KDD to enter into the domestic telephone market, (3) an article of Telecommunications Business Law stating that MPT may control the supply of telecommunications services on the ground of the possibility of excess supply be abolished, and (4) the Telecommunications Business Law be revised so that MPT may designate a dominant carrier, which will have the responsibility to interconnect its facilities with those of other carriers.

KDD announced that it would start supplying Internet fax services between U.S. and Japan in April 1997.

A domestic Internet service provider announced that it would start Internet telephones between Tokyo and Osaka at a price approximately one third to one quarter of NTT's tariff.

NTT announced that it would start international telecommunications services through a subsidiary in September 1997; initially, it would be engaged in resale business only.

The Cabinet submitted a proposal to the Diet to revise the Telecommunications Business Law, the NTT Law, and the KDD Law.

The WTO Telecommunications Negotiations were concluded. Japan promised to open its telecommunications markets, including basic services, to foreign providers. Japan, however, did not agree to allow foreign investment in NTT or KDD exceeding the 20% limit.

March Mr. Tadashi Nishimoto, President of KDD, stated that KDD would rely not on MPT's regulations but on price and quality of its own services in the near future. This means that KDD no longer opposes the entry by new "NTT International" into the Japanese international telecommunications market.

- May KDD announced that it would establish a subsidiary together with international service providers called "Japan Internet Exchange" in order to supply an IX (Inter-exchange point) for Internet providers in Japan.
- June It was reported by media that international internet telephone services, which was not yet approved by MPT, were in fact supplied by a Hiroshima-based Internet provider. MPT was supposed not to approve it if applied for; however, MPT commented that it would be difficult to force the provider to discontinue the service.
- On June 20, the Diet approved the proposal to revise the three Telecommunications Laws (the Telecommunications Business Law, the NTT Law, and the KDD Law). NTT would be divested by 1999, a New NTT International would enter into the international market by 1999, and KDD would immediately be allowed to enter into domestic as well as international market.
- NTT filed with MPT an application for an approval to form a subsidiary "NTT International Communications," a type II provider.
- July MPT approved NTT's application in June 1997 to establish a subsidiary of type II for international business.
- KDD started domestic long-distance services; the main target was directed to business users, and KDD reportedly intended to supply telephone and private line services at a lower price than any other Japanese domestic providers.
- MPT announced that it would approve, in observation of the WTO Agreement in February 1997, that international services connecting public-private-public lines would be allowed starting January 1998. Furthermore, MPT announced that international Internet telephone services would be allowed in October 1997, and requested comments on this proposal. According to a media report, an Internet service provider asked MPT to accelerate liberalizing international Internet telephone services; it was also reported that the provider would appeal to FCC of U.S. if MPT did not act promptly.
- August 4 KDD announced that it would form an alliance with DDI for international and domestic telephone services. This was to compete with the JT-ITJ merger expected in October

1997.

- August 6 AT&T Jens, a subsidiary of AT&T and an Internet service provider in Japan, announced that it would start Internet telephone services in August 1997. The price would be lower than KDD's tariff by 78% for services between U.S. and Japan. MTB Japan, a type II provider, jointly with an American provider from the state of Maryland, also announced to start international Internet telephone services at a price comparable with that of AT&T Jens.
- September 16 NTT MSC Sdn. Bhd., a subsidiary of NTT in Malaysia, started its operation to participate to the project of "Multimedia Super Corridor (MSC)," a Malaysian national project for constructing superhighways for multimedia communication.
- September 19 Japan Telecom filed with MPT an application to start new services with ITJ; the two companies were expected to merge on October 1, 1997. It would start international and domestic private line services on October 1, 1997, and a significant discount (by 25% at most) of international and long-distance telephone services to Type II carriers beginning December 1, 1997.
- September 22 NTT obtained a share of a U.S. communication venture provider called "Teligent" (Virginia, U.S.A.). The value was reported to be one hundred million dollars with probable participation to the board of directors.
- September 29 IDC announced that it would cooperate with NTT to enter into the domestic telecommunications market as a special Type II carrier.
- September 29 Deutsche Telecom announced that it would enter into the international telecommunications market of Japan starting in 1998 by interconnecting its international private lines with NTT's public network.
- October 1 The new "Japan Telecom" was formed by a merger of the old JT and ITJ.
- October 3 KDD, together with DACOM of Korea, Hong Kong Telecom, and the Telstra of Australia, established the Asia Pacific Internet Community (APIC) for Internet and Internet-related services.

- October 6 "NTT America," a subsidiary of NTT in U.S., and "KDD America," a subsidiary of KDD in U.S., both obtained an approval from FCC to start international telecommunications business in U.S. on the resale basis.
- October 8 KDD communications (KCOM), a 100% subsidiary of KDD, announced that it would start an open experiment of Internet telephony in cooperation with KDD Europe and KDD America. It would start Internet telephone services in December 1997.
- October 15 KDD filed an application with FCC for starting an international telecommunications service in U.S. on the facility basis (a licensee for a service on the resale basis was granted by FCC in September 1997).
- October 16 MPT announced that a deregulation would be implemented in the fall of 1998 to the effect that a provider, in principle, need no longer obtain from MPT an approval to change a tariff; a tariff change could be made only by filing a notice with MPT. This was considered to be a major move by MPT toward deregulations.
- October 17 MPT (together with the governing Liberal Democratic Party) made an announcement that FTTH (fiber to the home) would be constructed to all subscribers in Japan by the end of the year 2005; this would accelerate the completion of the deployment of optical fibers by five years from the previously announced plan.
- October 18 Teleglobe, a Canadian international telecommunications provider, announced that it would enter into the Japanese telecommunications market starting January 1, 1998. Teleglobe Japan filed an application for a license of Type I carrier.
- October 23 MPT approved an application by NTT to establish an international telecommunications subsidiary called "NTT International Network." This was a Type I carrier (a Type II subsidiary was approved in September) and certain restrictions would be imposed upon its operation to secure fair competition with other providers.
- October 24 IDC, an international telecommunications carrier, announced that it would enter into the domestic Internet interconnection services in November 1997.
- October 27 Iridium Japan filed with MPT an application for Type I business of international and domestic telecommunications operations; it would start service in September 1998 by

means of Iridiums's LEO.

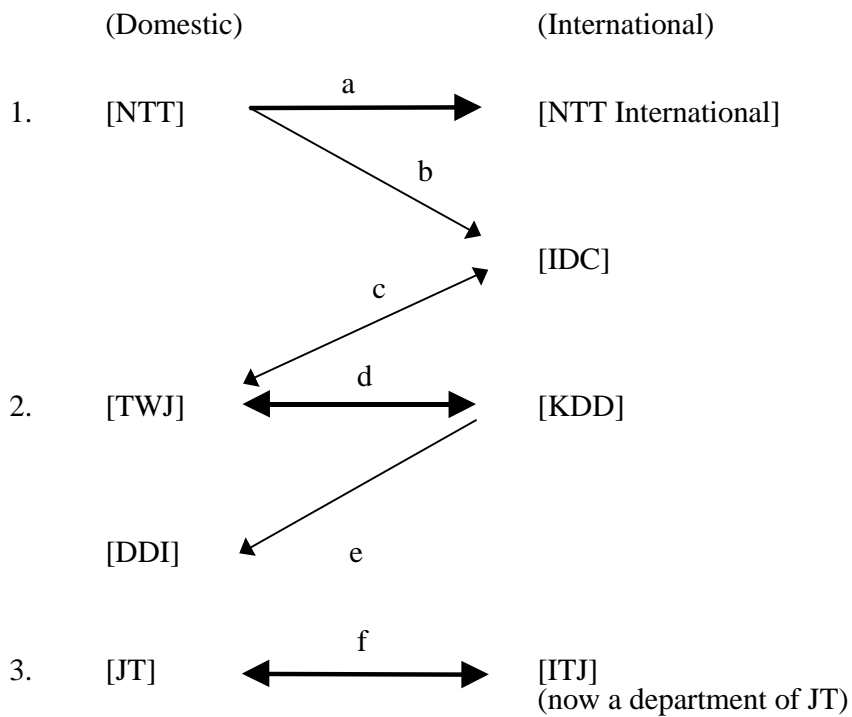
- October 31 NTT announced that its long-time objective to digitalize all of its switches would be finished on December 17, 1997. This means that NTT would be left with an extra fund for investment by an amount of five hundred billion to one trillion yens per year, which had been used for the digitalization of its switches in the past. NTT has not yet announced a major investment plan for this except that it would seek to develop various multimedia services to be provided on its narrowband and broadband digital networks.
- November 11 A merge in the near future was announced by KDD and Teleway Japan, a long-distance telecommunications provider backed by the powerful Toyota Motor Company.
- November 15 NTT obtained a license from the Vietnamese Government to construct a telecommunications network in a northern area of the city of Hanoi.
- November 19 DDI, a long-distance telecommunications carrier, obtained a license for international telephony with the prefix of "0078"; operation would be started in September 1998 by using LEO of Iridium.
- November 21 NTT DoCoMo, a subsidiary of NTT providing cellular services, announced that a significant increase in sales and profits was achieved during the first half of the 1997 fiscal year; the total sale at the annual rate reached the level of one trillion yen. NCC cellular providers reported stagnant sales during the first half of the 1997 fiscal year.
- November 22 Prime Minister Hashimoto disclosed a plan to reform the Japanese Cabinet and the Ministerial system (Gyokaku). The current three telecommunications bureaus of MPT (Bureau of Communications Policy, Bureau of Telecommunications, and Bureau of Broadcast Administration) would be reorganized into two bureaus (Bureau of Telecommunications and Bureau of Broadcast), which will be put under the umbrella of Ministry for General Affairs (Somu-sho).
- November 25 KDD and Teleway Japan announced that the two companies would merge on April 1998.
- December 1 (The new) JT introduced a domestic-international discount services, called "Super-

Family Line."

- December 5 MPT announced the detailed rules for the reorganization of NTT, which should take place by the end of 1999. NTT should file a reorganization plan with MPT for approval in early 1999.
- December 10 MPT announced that the deregulation of all of Type-I providers' tariffs from the approval system to the registration system would be implemented by August 1998.
- December 15 KCOM, a subsidiary of KDD, started international Internet telephone services.
- December 22 MPT approved the international public-private-public connection; "proportional return requirement" will not be imposed. It also announced to abolish the requirement of "the 100-destination obligation" on international Type-I providers by June 1998.
- December 31 KDD reduced the price for its frame-relay services. KDD also introduced new discounts for international calls by residential users.

Exhibits

Exhibit 1: Alliances in the Japanese Telecommunication



ALLIANCES:

- a. NTT owns the shares of NTT International.
- b. NTT assisted IDC at the time IDC started its business (1989).
- c. Toyota Motor Company owns a large part of the shares of TWJ and IDJ.
- d. Merger was announced between KDD and TWJ (November 1997).
- e. Cooperation Agreement between KDD and DDI was signed (August 1997).
- f. JT purchased ITJ (October 1997).

Exhibit 2: Reorganization of the Japanese Telecommunications Industry

1996 1997 1998 1999

Divestiture of NTT: Agreement between MPT and NTT on divestiture (December 1996)

Revision of NTT's Law approved by the Diet (June 1997)

Period for preparing divestiture of NTT (NTT will enter into international telecommunications market by means of subsidiaries)

Divestiture of NTT to be executed; NTT will be divided into a holding company under which East and West Regional Companies and a Long-distance-International Companies (by the end of 1999)

Domestic deregulation:

Mobile carriers may change tariff by registration (change from approval by MPT) (December 1996)

Revision of the Telecommunications Business Law; supply control abolished, interconnection rules established (June 1997)

Internet telephone services approved (August 1997)

International services connecting public-private-public lines approved (December 1997)

Foreign ownership of Type I carriers will be approved, except NTT and KDD (timing not yet decided)

Overall introduction of price-cap system (by the end of 1999)

International Carriers:

KDD started domestic long-distance services (August 1997)

NTT started international service through a subsidiary (September 1997)

Japan Telecom purchased ITJ (October 1997)

KDD will cooperate with DDI (1997)

KDD will merge with TWJ (1998)

KDD will start using JIH (Japan Information Highway) for domestic and international services (by the end of 1988)

Note:

Source: *Nikkei Communication*, 1997.6.2, etc.

Exhibit 3: Providers Around Japanese International Telecommunications

I. Global Alliances

A. Global One:

DT (Deutsche Telekom)

FT (France Telecom)

US Sprint

B. Concert:

MCI

BT (British Telecom)

Merger planned but not agreed (1997)

C. World Partners:

AT&T

KDD

KDD held by

MPT's pension fund

NTT

II. Japanese International Providers

A. NTT's international subsidiaries (Type II and Type I)

B. IDC held by

Ito C. Trading Company

C&W

Toyota Motor Company

C. ITJ merged with JT

Mitsubishi Trading Company

Mitsui Trading Company

Sumitomo Trading Company

FT and BT: Cooperation through international VPN

III. Domestic long-distance

A. NTT and Regional providers

Ministry of Finance (65.5%)

B. DDI

Kyosera

Sony

C. Teleway Japan

Toyota Motor Company

Japan Highway Foundation

D. JT

JR East Japan

JR West Japan

JR Tokai

Purchased ITJ (October 1997)

IV. Domestic regional

A. 9 NCCs under power supply companies

TTNet

Tokyo Electric

Mitsui Trading Company

Mitsubishi Trading Company

Nissan Motor Company

OMP

CTC

Source: *Nikkei Communication*, 1997.6.2,etc.

Exhibit 4: New Services and Prices from Reorganization in Japanese International Telecommunications

Providers	Timing	Subject	Services and prices
TTNet, etc.	April 1997	Regional NCCs interconnect themselves	The regional NCCs interconnect each other throughout Japan to provide “end-end” private line services including frame relay services; prices are expected to be set lower than NTT and long-distance NCCs.
NTT	September 1997	Start international telecommunications services	<p>NTT will provide international telecommunications services through a subsidiary, which will be a Type II carrier. Service menu includes (1) frame relay services, (2) private line services, (3) IP network services for business users. Services will be provided in Japan, USA (application for an approval of service provision is under investigation by FCC), UK, Germany, France, Hong Kong, Singapore, etc. Services will be directed to Japanese corporations in these areas, and services such as system integration will be provided.</p> <p>How telephone services will or will not be provided is not yet decided.</p>
KDD	July 1997	Start providing domestic telecommunications services	<p>KDD will provide domestic telecommunications services by using its own domestic transmission facilities; services will include (1) direct international telephones services (Route KDD) and domestic telephone between and from Route KDD subscribers, (2) private line services, (3) KDD's international public telephone terminals will be connected to domestic telephones.</p> <p>Discounting domestic and international fees; cooperation with TTNet is under consideration.</p> <p>Japan Information Highway (under water fiber cables around the islands of Japan) will start being used 1998.</p>
Japan Telecom	October 1997	To purchase ITJ	<p>Domestic long-distance service of JT and international services of ITJ were merged into a single service under a single price.</p> <p>The number of foreign companies which can be reached through ITJ increased from 160 to 230; this competes with KDD.</p>

Exhibit 5: Internet Services

Type of Activities

(1) Carrier cooperates with providers:

NTT purchases shares of IIJ (technical cooperation).

KDD purchases shares of RIMNET.

(2) Carrier provides Internet services:

NTT provides OCN (Open Computer Network).

JT provides ODN (Open Data Network).

TTNet provides TTCN and OMP provides WCN.

(3) Carrier provides IP services to business users:

NTT PC Communications provides EBN (Enhanced Business Network).

KDD provides international IP service, which will be extended to domestic users.

(4) Carrier maintains IX (Internet exchange services):

9 regional NCCs established MEX (Media Exchange)

KDD and other major IP providers established Japan Internet Exchange (JPIX).

(5) Foreign carriers provide Internet services through subsidiaries:

AT&T Jens provides AT&T Internet services.

BT and NIS provide NIS Internet services.

Global One provides Global IP services.

Japan C&W provides MAJIC.

**Exhibit 6: The "quantity of laws and rules" concerning the procedure of public hearings
and decisions in telecommunication regulations: Japan and U.S.**

Japan	"Quantity" Unit: lines
Telecommunications Business Law	60 (5 Articles: Articles 38, 39, 94-96)
Rules for the Telecommunications Business Law	50 (3 Rules: Rules 62-64)

U.S.	"Quantity" Unit: lines
Communications Act of 1934 (47USC)	600 (7 Articles: 47USC154, 155, 401-405)
Federal Communications Commission Rules (47CFR)	10,000 (170 Rules: 47CFR § § 1.1-1.615)

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"Strategies of Telecom Common Carriers for Expanding Globalization: A Comparative Study of the USA, the European Union, and Japan: The Japanese Case," Paper presented at the International Conference on Global Telecommunication Companies: Competition and National Policies, East-West Center, Honolulu, U.S.A., January 7-8, 1998, 37pp. + appendix (63pp.) + figures.