

**Challenge to the Globalism of
Public Telecommunications Operators--
Toward a New Framework of
Telecommunications Policy**

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1. Introduction
 - 1.1 Scope of the paper

The objective of the paper is to identify newly emerging forms of international expansion of activities of public telecommunications operators (PTOs)¹ and analyse their national and international policy implications. Particular focus will be placed on the following three forms of globalisation: 1) new service options in the provision of existing international telecommunications services; 2) foreign direct investment (FDI); and 3) off-shore services provided by alliances between PTOs (e.g. so-called "one-stop-shopping" and "outsourcing").

Discussion in the paper will be based on empirical evidence observed in the OECD Member countries, including all the European countries (both EC and EFTA member states). Under increasing interdependency between national economies on the global scale, especially over the "Triad", i.e. Asia-Pacific, Europe and North America, policy assessment in the OECD countries will give useful elements applicable in the European context.

- 1.2 A paradigm change

The increasing globalisation of corporate activities (both manufacturing and service sectors) in the OECD Member countries has spilled over onto the telecommunications sector since the end of the 1980s. This fact is creating fundamental changes in the paradigm of international telecommunications service provision. An increasing number of public telecommunications operators (PTOs) are extending their business activities, either explicitly or implicitly, to countries outside of their home countries. Although this is a fairly new phenomenon, speed of expansion of the activities has been dramatic. The

1. PTO in this paper means an operator and provider of public switched voice telephony services on local, long-distance and international levels. Those service providers other than this service, such as sole providers of value-added and/or mobile services, are excluded.

absolute value of such investment may be relatively small, when compared with the whole PTO investment that includes the one in installation and improvement of network facilities. The strategic importance put by PTOs, however, should not be overlooked.

There is a growing level of discrepancy between those to whom national telecommunications policy and services are addressed (Figure 1). In the past, both telecommunications policy and services are addressed to national users in the country. While the basic idea of the policy has remained to be the same to date, the services are extending their reach by including both national and foreign users in national and foreign markets. A number of policy issues arise from this discrepancy. Existence of asymmetry in the level of liberalisation between OECD countries increases economic impacts of PTO globalisation, giving birth to a set of policy issues relevant to all countries. National telecommunications policy has now broader cross-border implications than it had previously.

2. New forms of internationalisation

2.1 New service options

PTOs are developing a variety of service options and geographical coverage of their provision. Discount in voice telephony services using simple resale of the international leased circuits is the simplest example of a price option².

PTOs are offering various options in billing and call-set up services that facilitate customers to use the international voice telephony service. Examples of these include international toll free service (such as "International Green Numbers" by PTT Netherlands), and an automated reverse charge service (those "Country Direct Services", such as "OTC Country Direct" by AOTC (Australia), "Japan Direct" by KDD, and "USDirect Service" by AT&T).

Calling card services have opened more variation in calling options to users. An automated credit call service (such as "OTC CallCard" by AOTC, and "Calling Card" by AT&T and similar service by MCI and Sprint) was developed to enable users to charge the fee of calls originating in foreign countries to their account in their home countries. Some US PTOs are, furthermore, providing a third-party calling service. This service is made available technologically as a mere extension of the calling card service, with "World Connect Service" by AT&T and "MCI Card" by MCI being examples. In this service, a holder of the calling card in Country A may call from Country B to Country C via Country A (Figure 2-1). The card holder first calls Country A, then has the PTO in Country A call Country C. The calling procedure is the

2. For example, it is reported that Televerket (Swedish PTO) applied an international simple resale licence to the UK authority to provide voice telephony services from the UK and Sweden, and that Televerket planned to do the same with the US. (Source: "Tariffs Undermined", Communications Week International, p. 1, 14 December 1992, UK). The same application is under consideration between the UK and the US. (This information is as of April 1993.)

same as the automated credit call terminated in Country A, but simply the call is forwarded to a destination outside, not inside, of the country.

In this service, flow of the payment between PTOs in Countries A and B goes on the contrary to the direction of the call. A PTO in Country A pays the accounting rate to a PTO in B for those calls originated by calling card holders in B and addressed to the third country via A. This is because of the existing International Telecommunications Regulations. The Regulations determines that credit calls originated in a foreign country are treated as outgoing calls from the subscribers of this service's home country, in this example above, Country A. The Regulations also requests that accounting rate must be paid by the country which originates traffic over a route not previously agreed. In the example above, a call from B to C routed via A. Benefits of existing PTOs are in this way safeguarded.

Market size of the third-party calling service is, in fact, estimated to be negligibly small in relation to the whole volume of international traffic between any pair of the two "by-passed" countries (such as countries B and C in Figure 2-3). Customers to whom this service is most appealing would be those who subscribe to the calling call service and who are travelling abroad. It is unrealistic to assume that the volume of international traffic generated by such customers is large enough to result in a significant loss of revenue for the "by-passed" PTOs.

Third-party calling service has, however, some potential elements of competition:

- This service enables a PTO in Country A to participate in telephony services markets between B and C, from which in the past the PTO in A was excluded. The PTO may obtain revenue from collection charges from the calls from B to C via A. If the accounting rate from B to C (\$z in Figure 2-3) is higher than the one from A to C (\$y in Figure 2-3), C might loose some income opportunities:
- Impacts of third-party calling service on the corporate image of PTO may be substantial. The idea of the "third-party" calling service by using a credit card call would look "smart" to customers who are used to encountering problems when preparing coins or a number of prepaid telephone cards when making an international call from foreign countries. It is a psychological effect but makes a difference for the "brand image" of a PTO; and
- Expansion of the card holders outside of the issuer PTO's home country is, in theory, possible. Alternatively, the PTO may link this service with existing commercial credit cards issued by financial service firms (e.g. VISA, Master, American Express, etc.)³. If the calling cards are widely made available to customers regardless of their nationalities, telephone users may wish to hold

3. This point was discussed in Staple, G.C. (1992), "Winning The Global Telecoms Market: The Old Service Paradigm And The Next One" in "TeleGeography 1992", pp. 132, International Institute of Communications, London.

cards that enables them to use a PTO that offers the lowest price.

All these effects stated above may create some feeling of competitive pressure on the "by-passed" countries (Countries B and C in Figure 2-3), despite the fact that the third-party calling service is operated in the realm of credit call service based on bilateral agreements in the framework set by the International Telecommunications Regulations. Discrepancy in interests between PTOs will arise.

Increase in the number of countries that allow simple resale of international leased circuits will give birth to a carrier that does not own facilities but leases international circuits and provide the same service as PTOs⁴. PTOs are no longer the only players in international telecommunications. A situation described below is possible with the international simple resale:

Let us imagine that the original condition exhibited in Figure 2-2-(1). A PTO in Country A has a cable for transoceanic traffic between Countries A and B. The PTO obtains profit by providing toll call transmission service to international calls from the Countries C, D and E to B through the cable. A charges this services to PTOs in C, D and E. The PTO in Country A thus obtains markets for international traffic both from its domestic market and from foreign countries. In a new situation illustrated in Figure 2-2-(2), a telecommunications operator (TO) Z enter the transoceanic telecommunications market. Z leases a large capacity of the cable built by a PTO in Country P, uses an international reverse charge service to attract users in countries C, D and E, and provides international telecommunications services between these three Countries and Country B. In this case, Z is competing with PTOs in P and A, since users in P may also take advantage of the same service. The operator Z may further aggressively try to attract more users in C, D and E by using international toll free services for customers to access to its switches located in P.

Simple resale will place down-ward pressure on the charges of existing international telephone services. In the example above, Country A may have to reduce the toll call transmission charges to maintain traffic from C, D and E.

2.2 Foreign direct investment

Foreign direct investment (FDI) by PTOs is increasing in terms of both the number and level of investment. FDI takes various forms; purchase of shares of TOs (both PTOs and other service providers), establishment of joint ventures (JVs), obtainment of franchise for the operation of telecommunications service and mergers and acquisitions (M&A) of providers of enhanced communications services other than TOs. Direct investment has an advantage for PTOs in that they become globally known (i.e. global presence) in a relatively short time and is a means of rapidly entering the telecommunications market. Examples of recent large scale direct investment include the purchase of shares

4. Such a carrier is called as "Light Carrier", as opposed to "Heavy Carriers", that own facilities and provide services, in Staple, G. C. (1992).

of the PTO in New Zealand (Telecom Corporation of New Zealand Limited, or TCNZ) in 1990 by a consortium of Ameritech and Bell Atlantic (both from the US) and the purchase of 49 per cent of the shares (with voting rights) of Mexican PTO, Telefonos de México (Telmex) by a consortium including South Western Bell (a Regional Holding Company in the US) and France Télécom (FT, France) in 1991.

Foreign direct investment gives birth to several policy issues in an interface between existing rules for trade and international capital movement (external factor) and telecommunications regulation that controls the level of openness of the domestic markets (internal factor). This is because of existing asymmetry between country rules for foreign ownership of PTOs and the levels of openness of telecommunications markets.

1) *Competition issues*

Where do monopoly (or near-monopoly) PTOs obtain financial resources to invest abroad? Is there a possibility of subsidised competition when these PTOs compete with non-monopoly PTOs in the telecommunications market in third countries (i.e. those countries that receive investment)? What rules do we need to avoid subsidised competition?

2) *Trade issues*

Is the same level of accessibility to the market in the country concerned assured for both domestic and foreign PTOs (i.e. Non discrimination in market access)? Are current regulatory systems opened to foreign-owned PTOs in terms of the availability of information needed to access national markets, such as network information and minimum customer data?

Acceptance of FDI has implications to trade in telecommunications equipments. If new entrants are limited in their options in equipment, such conditions may work as a *de facto* entry barrier to the service market. Although it has been a fact that PTOs often had certain manufacturers who provided equipment almost exclusively to them, such practices will have to end. Liberalisation in telecommunications equipment interconnection need to be undertaken.

3) *Beneficiaries of FDI*

Who are the beneficiaries of FDI by PTOs?

Viewed from the investing countries, can PTOs use profit from the home country to invest abroad, instead of better meeting Universal Service Obligations, such as improvement of services, network facilities and reduction of tariffs to domestic users?

Viewed from the countries receiving investment, what mechanism is needed for the public to take the best advantage of profits from telecommunications markets in its own country? Is there a need for a mechanism to prohibit the profits (some or all) from going abroad?

2.3 Alliances and outsourcing

Co-operation between PTOs is a major means to serve international customers, supplementing geographical coverage of PTOs with each other. The co-operation started in a form of joint account management (JAM) agreements in the late 1980s between major PTOs in Member countries and evolved to form closer co-operation.

Under JAM, two PTOs in different countries take care of the partner PTO's corporate customers that have branches in each other's country. In this system the customers may construct and maintain international corporate network systems only with the support of their home country's PTO.

The development of JAM soon grew to form a more organised form of PTOs' alliances, i.e. so-called "one-stop-shopping" (OSS). In OSS, a PTO that becomes a one-stop-shop (co-ordinating carrier) takes all the actions needed for corporate network systems on behalf of a customer firm concerned. While JAM is a bilateral agreement merely for the customers of the countries concerned, OSS providers are less concerned about the customers' nationalities.

"Outsourcing" services have become more strategic to PTOs when inefficiency of OSS in network management became evident. A concept of outsourcing includes various level of involvement of users' networks, from a simple management of data communications networks to the entire handling of information network systems, including planning, construction and operation of networks and information processing (Figure 2-3). A variety of services are included in outsourcing, such as so called "managed data network service" (MDN), global virtual private network (GVPN), international frame relay service and "bandwidth-on-demand".

Outsourcing may or may not imply ownership of communications nodes and switches. Some PTOs install these equipment owned by themselves in major sites of global corporate networks and thus build a single network, whereas others do not, but provide the service through networks provided by other PTOs. For example, Unisource Business Network, a branch of Unisource (The Netherlands, Sweden and Switzerland, as explained below) has installed nodes in Paris and Brussels, and BT, all over the world for the provision of its MDN, Global Network Service (GNS). For AOTC, Australia, in contrast, MDN is a consultation service that does not involve the construction of its own facilities abroad.

Regardless of the ownership of nodes and switches, many PTOs seem to feel they need alliance with other PTOs in order to ensure geographical coverage needed by the targeted users and, in fact, have developed partnerships with each other. Examples of such partnerships are EUNETCOM (FT and DBP Telekom, who each own a 50 per cent stake, started in 1992), Syncordia (BT, started in 1991⁵) and Unisource (PTT Telecom in the Netherlands and Swedish Telecom, started in 1992 and were joined by Swiss PTT in 1993). Alliance between MCI (the US) and Stentor (Canada) to serve corporate network systems of Chrysler Corp. (an MNE in an automobile manufacturing based on the US) is also

5. Its partnering PTOs are yet to be obtained as of April 1993.

aimed at outsourcing services⁶.

PTOs are increasing their involvement in international value added network services (IVANs) through acting as integrators of various voice and data communications systems (Figure 2-3 above). Large-scale corporate networks usually have multi-purposes and transmit both voice and data. A processing system for a large volume of data, such as a Computer Aided Design (CAD) system, is sometimes interconnected with and transmitted over international private networks. Provision of outsourcing for these customers means that PTOs are eventually enhancing their function as IVAN providers.

There are, however, a number of IVAN providers originated from a variety of sectors other than the telecommunications sector. PTOs are merely one of these competitors. Major examples of the competitors include: specialised firms (e.g. Electronics Data Systems Corp.), computer system vendors (e.g. IBM and DEC), VAN providers (e.g. Philips⁷ and GEIS) and subsidiaries of accounting firms (e.g. Andersen consulting).

Distinction between large users and PTOs is becoming unclear in IVAN. This is a result of on-going liberalisation in the usage of leased circuits. Some large users are partly but increasingly in competition with PTOs in both data and voice telephony services. Emergence of inter-sectorial competition is recognised by users of large corporate networks. The Société Internationale de Télécommunications Aéronautiques (SITA), an association of the airline sector in the world set up to meet the telecommunications needs of the industry, i.e. IVAN, is an example of this. SITA has been a large user of international leased circuits in relation to PTOs in many countries. The organisation is increasingly in competition with those PTOs who intend to obtain customers in the airline sector. The same relationship between PTO and large users applies to voice service in those countries where simple resale of leased circuits for the service is allowed. Some large users are starting to provide voice telephony services to users outside of the companies on commercial basis by using their own corporate networks, such as many of the Type II carriers in Japan⁸. Large users may not be mere users for PTOs any more.

Policies that ensure a fair playing field of inter-sectorial competition will have to be developed. There is a possibility of abuse of competition if those IVAN providers originally in the private sector compete with PTOs that may cross-subsidize competitive business from revenue in originally or currently monopoly (or near-monopoly) markets, such as voice telephony services.

6. Source: "Chrysler Maps Out Traffic Route", Communications Week International, p25., 14 December 1992.

7. Philips Communications & Processing Services International, a Philips's VAN unit.

8. Many of Type II carriers (those TOs that provide services by leasing circuits from Type I carriers) are formulated from a telecommunications service branch of large users of corporate network systems.

Relationship between PTOs themselves are also changing in IVAN in the context of outsourcing. A PTO needs to lease circuits from other PTOs to provide MDN over a number of countries. The former is a large customer of leased circuits in the latter's home countries. PTOs are thus increasingly in a two-folded situation with each other, i.e. both competitors and customers.

A type of outsourcing services in which a PTO owns facilities, as described above, may have implications to telecommunication infrastructure policy. PTOs providing outsourcing services have their own switches and/or nodes in the countries and even those that are not a member of the alliance. MDN is a penetration of foreign PTOs infrastructure in the host country. The ownership of infrastructure, however, is not an important issue viewed from users. That users' priority for the selection of a service provider is the best quality at a low price, not the nationality of the provider. Thus traditional reasoning that justifies government ownership of telecommunications infrastructure, "the government should own telecommunications infrastructure to guarantee the services quality", may have to be reconsidered, including a possibility of its relaxation.

If a large number of PTOs form an alliance, such movement may have the same effects as a cartel. Anti-competitive concerns may arise in international markets.

2.4 Implications to the existing regime

An additional observation arises from all the above-referenced analysis: i.e. representation system of users interests in international telecommunications organisation for technology standards and rule setting of the services, such as International Telecommunication Union (ITU) will have to be reconsidered. Observations of interests of users of global corporate networks suggest that a perception that supports the ITU system that one country's PTO represent interests of this country's users holds merely decreasing value.

PTOs, however, still needs the existing regime of international telecommunications. The newly emerging international services are provided based on a number of existing bilateral and multilateral agreements. Examples of the former are rules for landing rights of trans ocean cables and transmission rights of cables, and the latter, those rules established at ITU, that includes a variety of agreements on international service provision, e.g. accounting agreements on both private and public circuits, credit call services, and other variety of services. These agreements, in fact, still are the basis of the current development of various international services by PTOs. It should not be overseen, in addition, that ex-monopoly PTOs have obtained benefits from these rules. Mutual familiarity and credibility to each other developed through a long-lasting relationships between PTOs are still substantial assets useful and needed by them for further development of international activities. In short, PTOs are partly leaving ITU regime towards competition in international markets, while trying to keep existing benefits.

3. Two dimensions in types of globalisation

Global activities by PTOs discussed above have two conceptual dimensions: one, in which a PTO stretches its service provision to other countries, i.e. an "outgoing" dimension and another in which a PTO is potentially in competition with each other, "incoming" dimension. The "outgoing" dimension means PTO's visible globalisation activities. Investment in the telecommunications sector abroad, provision of service abroad and corporate alliances are examples of this dimension.

The "incoming" dimension, although not always visible, is created by penetration of effects of other PTO's globalisation into domestic markets. The "incoming" dimension, in other words, means a situation in which a PTO is eventually placed in competition with another PTO. One PTO's gain in this case is generated from another PTO's loss of its potential gain.

Efforts currently made by many PTOs to invite international corporate network users to locate their hubs in the PTO's home country is an example of the "incoming" dimension. The PTO expects to obtain high profit from the lease of circuits with large capacity and increased international traffic. Economic gain from associated activities with installation of the hubs is also expected, since hubs are often located in the regional centre of corporate activities of user firms. Several PTOs are, in fact, competing with each other by appealing their advantages to customers, that includes level of liberalisation, low price, quality of services and geographical locations⁹.

Another example is the offer of competitive rates in transmission charges. In Figure 2-4-(1), the original condition is the same as the one illustrated in Figure 2-2-(1) above. For MNEs, the location of the trans oceanic cables give incentives for them to locate their communications hubs in country A. What happens if another country P constructs its own cable to connect with country B, and offers a transmission rate that is less expensive than the one paid to country A (Figure 2-4-(2))? PTOs in countries C, D and E may wish to route their international outgoing traffic via country P, rather than A. MNEs may locate their communications hubs in country P, not A. PTOs in countries A and P are in competition in trying to obtain traffic from the countries C, D and E, and MNEs. This example may look similar to the above-referenced example of simple resale. The major points to be seen in this transmission charge example are: 1) even both countries A and P prohibit simple resale of leased circuits, competition between the two may take place, and 2) PTOs in A and P compete for other PTOs in neighbouring countries (C, D and E), not individual users.

All the above-referenced examples indicate that PTOs are increasingly in competition with other PTOs, regardless of their interest in stretching their activities abroad. All these phenomena will put pressure to PTOs to secure at least their current customers. In the hub example above, if a PTO wishes to obtain benefits from hubs, telecommunications policy makers and a PTO will have to further liberalise usage of leased circuits, improve service quality and reduce service price. In other examples, downward pressure will work on

9. Such type of competition is currently increasing between major PTOs in Asia-Pacific and Europe.

collection and transmission charges of international telecommunications. If PTOs and policy makers do not respond to "incoming" effects of PTO globalisation originated in other countries, costs for the maintenance of current regulation will be paid by loss of both existing and potential incomes.

4. Conclusion

Globalisation of economic activities, PTO activities and on-going liberalisation of telecommunications policy will interact with each other even more in the future. The implication of international competition between PTOs for national telecommunications policy is substantial. All PTOs are increasingly in a situation in which they have to enhance attractiveness of the domestic telecommunications market for both national and international customers. Telecommunications tariffs have to become competitive when compared with other PTOs. Regulation on the usage of leased circuits need to be reduced and waiting time needed for the preparation of circuits, much shorter than now. Type approval systems have to become simpler, more rapid in providing approval and liberalised. Interconnection with public switches has to be non-discriminatory between domestic and foreign-owned carriers and the procedure to obtain permission for interconnection has to be comprehensive, simple and less time-consuming. If PTOs continue to make such efforts, it will eventually lead to the liberalisation of telecommunications in all the countries.

A task for policy-makers is to formulate the framework for the development of policies that accommodate globalisation impacts. Policy vacuum in telecommunications is seen in handling questions such as those listed above. Existing rules in telecommunications are only partly instrumental to handle the issues that have increasing international interface.

International co-operation is needed to handle the newly emerging policy issues related to PTO globalisation. No one country alone may not be able to provide effective solutions. These issues are in the cross-section between originally different policy areas, i.e. telecommunications, trade, competition and international capital movement. Common rules for the telecommunications sector in an international level should be formulated based on cross analysis between telecommunications and three other originally different policies. Such process might necessitate some adjustment in existing national telecommunications policy to newly created rules.

Figure 1-1
Mismatch between Recipients of
National Telecommunications Policy and Services

| | Policy | | Services | |
|---------|----------|-----------|----------|-----------|
| | Area | Customers | Area | Customers |
| Past | | | Domestic | Domestic |
| Present | Domestic | Domestic | Domestic | Domestic |
| | | | Foreign | Foreign |

Increasing Discrepancy

Figure 2-1
Third-party calling service

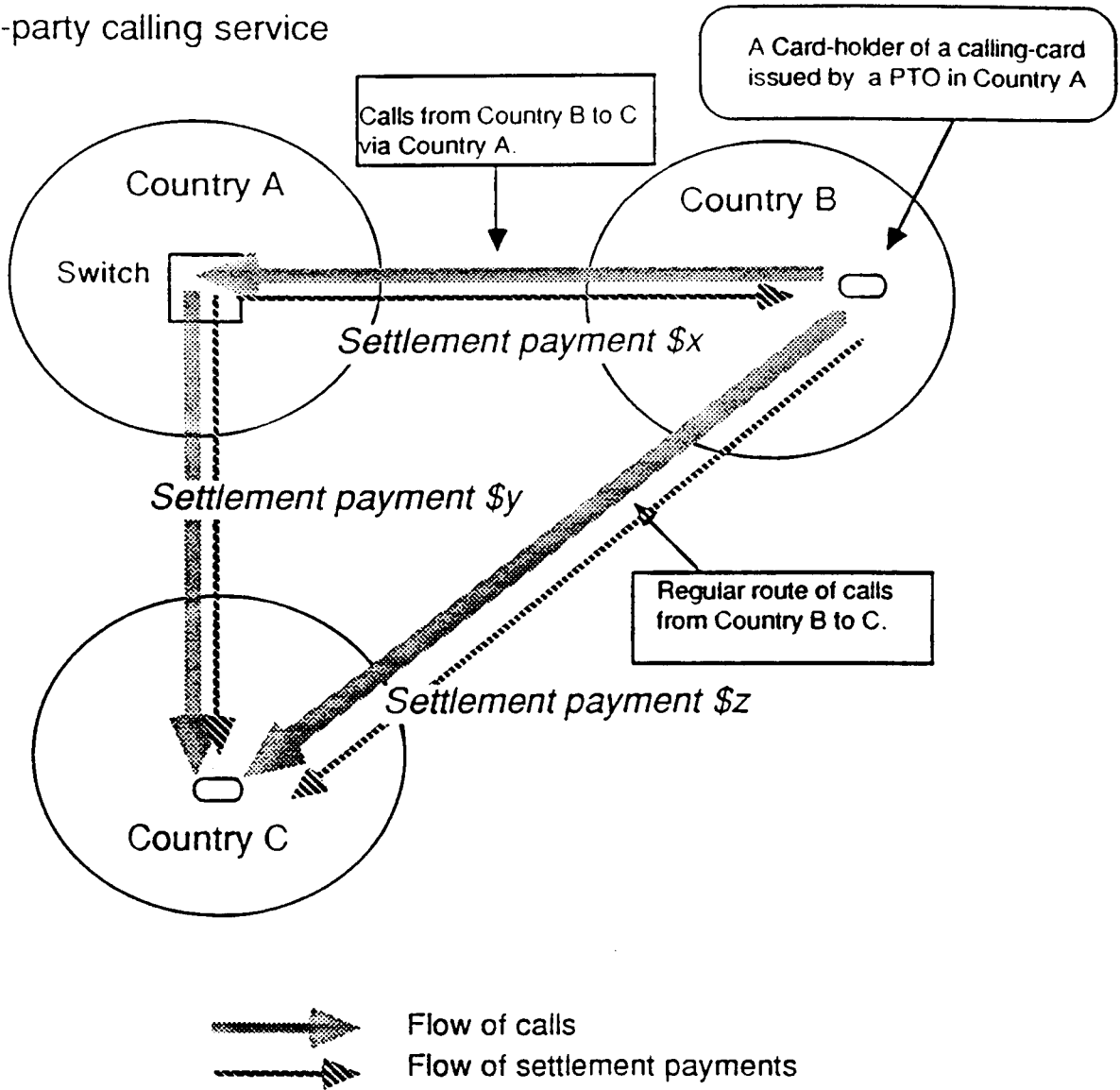
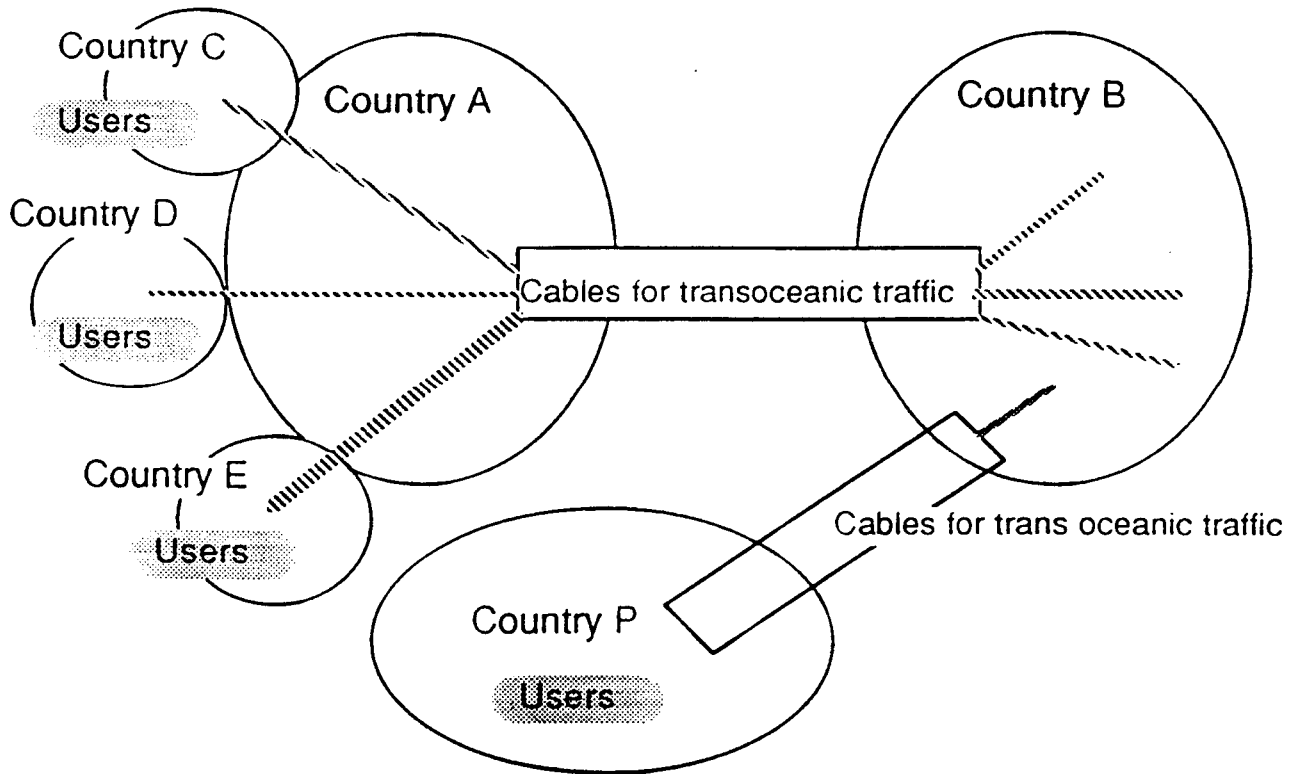
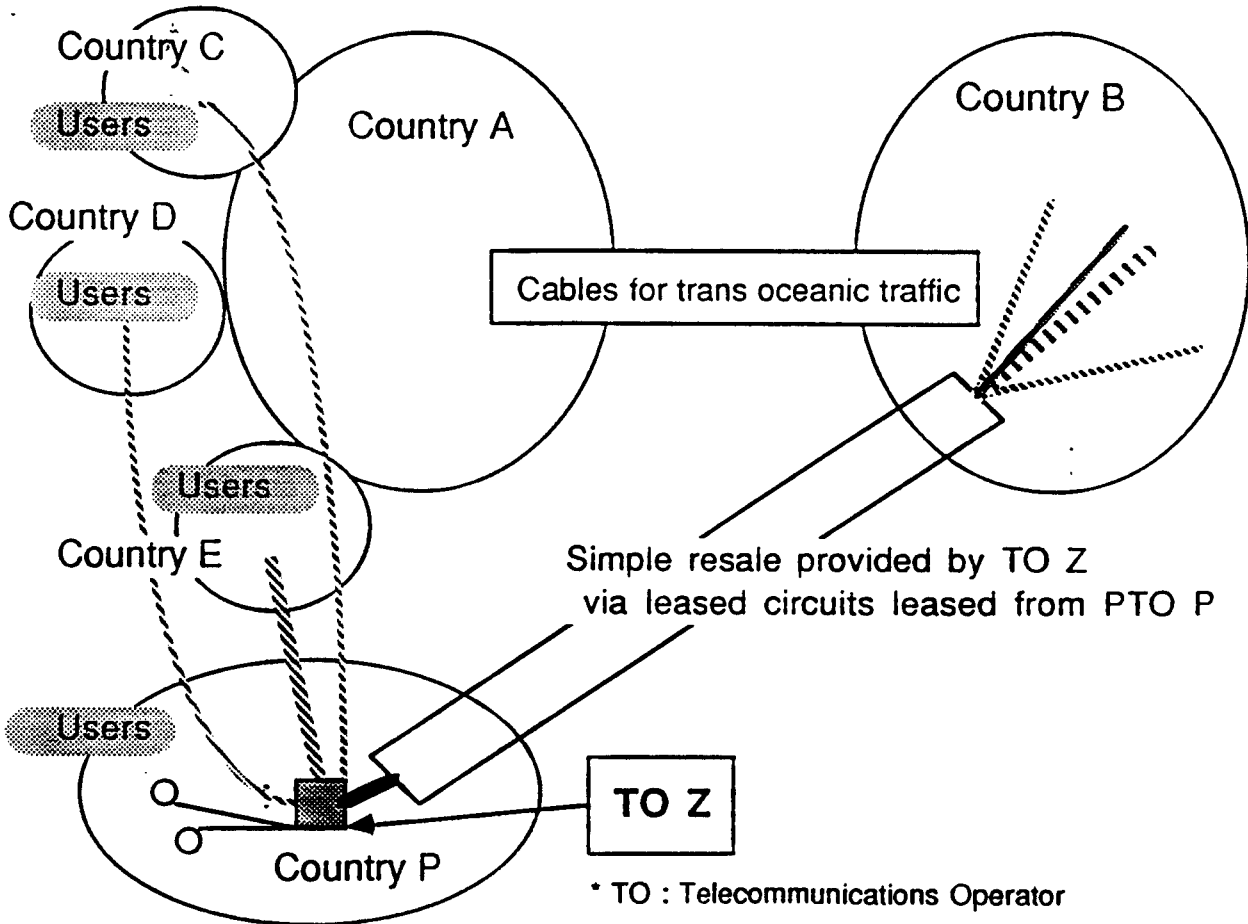


Figure 2-2 Simple resale
 (1) Original condition



(2) Potential competition between PTO A and a TO in Country P



* TO : Telecommunications Operator

Figure 2-3 Evolution of PTO alliance

