ALTERNATIVE LEGAL REGIMES TO ENABLE UNIVERSAL TELECOMMUNICATIONS ROAMING

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Abstract

Global satellite systems have been proposed to enable "universal roaming" by the end-users of their telecommunications services. These systems are today technically feasible, and perhaps economic and financeable. However, no organizations have been proposed that address the institutional, political and cultural issues that must be addressed to assure the world-wide availability of these services. Proposed here is an organization with two parallel components to meet these objectives. One, the Operator, is a traditional commercial corporation which could be one of the proponents of these new global telecommunications services. It is responsible for raising the required capital, and building and operating the proposed systems. The other, the Parliament, has a parliamentary structure with delegates from each served nation. The Parliament's main function is to franchise distributors of the Operator's service in each served nation. The Operator shares its revenues with the Parliament to return dividends to the nations served. The organization proposed here is a paradigm for global telecommunications enterprises. The organization is stable, meets the stated objectives, and converges toward simplicity and fair dealing of all cultures and polities.

Introduction

Several satellite systems have been proposed to enable direct mobile voice and data telecommunications on a world-wide basis, providing "universal roaming" using a cellular network concept. These systems would allow a fixed or mobile subscriber anywhere in the world to connect with other system subscribers as well as the public switched telephone network ("PSTN"). As such they are not only direct extensions of traditional telecommunications networks, but also will foster a variety of value-added services. Iridium, Orbcomm, GlobalStar, Ellipsat, Starsys, and Odyssey are examples of systems proposed for licensing by the United States.

International satellite telecommunications systems such as Intelsat and Inmarsat are consortia wherein the "signatory" for each country, usually the

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country's Ministry of Posts, Telephone and Telegraph ("PTT"), represents the international system and shares in the revenue from traffic into and out of the signatory country.[1] Private satellite systems such as PanAmSat have negotiated "landing rights" in many nations similar to those afforded Intelsat and Inmarsat, with a concomitant revenue sharing arrangement. The PTT most often owns the in-country earth stations or provides access to shared earth stations. Private network operators are required to coordinate their operations with the PTT's, and have succeeded in several countries to obtain direct customer premise equipment authorizations. Nonetheless, the PTT straddles the transmission network and "controls" access to the international telecommunications systems.

The proposed new global satellite systems obviate the need for large in-country earth stations and enable direct communications to handheld, mobile, transportable and small fixed terminals. Technologically, there is no requirement for PTT participation. Legally, however, the local telecommunications organizations want to "control" access to international systems for revenue, political or cultural reasons.

The institutional cost to negotiate individual agreements between countries and the system operator can be larger than the hardware costs of some of the proposed systems. These new satellite systems create the need for alternative legal regimes to allow universal roaming. This paper examines these issues and postulates an alternative legal regime to garner the economic benefits from these advanced telecommunications systems while respecting the sovereignty of participating countries and the business objectives of private entities.

Today's World Telecommunications Environment

Global telecommunications companies of the type described here are truly a new kind of business, and as such they need a new way of doing business. Because these systems are able to literally reach almost everyone in the world, they must be able to deal with every country. To be successful the system operators must overcome each country's differing politics, culture and customs, and treat each country as an equal in the delivery of their services.

Traditional multinational companies and telecommunications consortia have their strengths and weaknesses, and both reflect the goals and culture of their founders and operators. Multinational companies are not pan-nationals, but are "citizens" of the few developed nations having an ownership interest. They are tied to their countries of origin. Shareholders and managers of these companies are economically incentivized, and fear loss of control. Consortia are more like governments; they provide a forum for addressing multiple and often divergent objectives, but do not run complex businesses well. The new global telecommunications systems require organizations which efficiently and cost effectively deliver these services, and simultaneously respond to the individual requirements of the countries in which the services are provided. Key players in these new organizations are the PTTs of the world.

The Role of the PTTs

In most nations the telecommunications service provider is the "telephone company," a part of a government-owned Post, Telephone and

Telegraph monopoly (the "PTT") with its own separate Cabinet Minister. Even when it doesn't hold a full monopoly, the PTT controls its nation's radio frequencies, thus also controlling its competitors' operations. These realities define the conditions under which an outsider can provide telecommunications services.

Because the PTT is a business that reports to a Ministry, it must be dealt with both as a business entity and a Cabinet-level government organization. Foreign companies must thus deal with the PTT simultaneously through diplomatic and commercial channels.

There is a trend among more progressive nations to privatize their telecommunications systems, or otherwise allow some form of domestic competition. In spite of this trend, most governments still maintain a high degree of control over telecommunications service providers and vigorously protect their national enterprises, usually through cabinet oversight of their operations. Therefore, the out-of-country telecommunications service provider must regard these privatized enterprises as national entities similar to the PTT.

In most countries throughout the world the PTT is a major employer, and its many technical jobs carry high prestige and pay. Jobs in the PTT and its local suppliers are not only important to economic stability, but are often one of the nation's largest sources of patronage. Lines of business that challenge the scope or importance of the PTT or its domestic suppliers are not welcome. Furthermore, a great many PTT engineers have foreign educations and are thus among the nation's social and intellectual elite. Their prestige and political power are out of proportion to their numbers.

The PTT may also serve certain matters of local custom. In some countries, it is necessary for foreign companies to use local agents for sales of goods or services to public entities in the country. Further, PTT managers have established relationships with companies supplying equipment and services to the PTT. Any new arrangement which interferes with established business practices may be perceived as a threat to established relationships.

Finally, government control of telecommunications is also a matter of national security. Telecommunications is both an advantage and a threat to government. While good communications enhance military command and control and make central government more efficient, it can also be used by those opposed to the government to further their ends. Nations also fear that a foreign carrier will allow other nations to eavesdrop on its sensitive communications. Although unlikely, some nations also fear that if a significant part of a nation's communications are carried by a foreign company, then the company could hold the nation hostage.

To be allowed to deliver services, the new global telecommunications companies must not only make favorable arrangements with each government and its PTT, but must deal with the structural issues described above. If they do not, they will not be allowed to provide services in that nation.

Institutional Relationships Being Proposed

Some of the proponents of these new global telecommunications services have publicly proposed institutional relationships they would like to see established for the delivery of these services. The most

common proposed institutional form is to allow countries around the world to make a small investment in the company that is the system proponent in return for landing rights access to that country. It is argued that this investment allows the country to influence the operation of the company, and earn a return on its investment. It is assumed that the level of investment would reflect the current economic development of the investing nation. Economically advanced nations could make larger investments, earn commensurate returns from the level of traffic generated by them, and exert a greater degree of influence on the management of the company. Lesser developed nations would only be able to make smaller investments, and their returns would also be commensurate because they would generate less traffic on the system than their more economically advanced brethren. Realistically, however, these lesser developed countries would have virtually no say in the management of the company, even though many of the system proponents have stated that lesser developed areas are one of their prime target markets.

Other system proponents are simply seeking to sell their system designs to established world telecommunications service providers.

All of the system proponents would like to have Inmarsat, Intelsat and Intersputnik as joint venturers because each of these world-wide telecommunications system providers has established relationships with most of the countries of the world.

None of the current proposals, however, successfully addresses all of the political, economic, financial and cultural issues that must be addressed to deliver these new telecommunications services.

Objectives to be Met

If we were to start with a clean sheet of paper to design an organization to provide these new global telecommunications services, we would design an organization that gives real power to the nations it serves. At the same time, its operations would have to have the structure and incentives of a normal commercial business. It would have to share a meaningful amount of both revenue and profit with its client nations. It would have to allow its service to be sold by or through fully autonomous entities in each nation, so that local customs could be served in each nation.

Its assets would ideally be owned by telecommunications companies and other investors representing a variety of regional interests, and the operating, purchasing and asset-holding parts of the business would be managed as a separate entity by a profit-oriented hierarchical organization.

It would have diplomatic credentials, permitting it to operate openly in diplomatic channels in its own behalf, and it would allow diplomats and government officials of its served nations to participate openly in its organization.

It would allow its client nations to influence the way the organization does business in their nation and in their geographic region, so that national and regional needs would be served. The organization would submit to regulation by its served nations.

It would be stateless. National security issues are less threatening with a stateless organization. However, the statelessness would have to be real. In spite of their widespread manufacturing plants and

laboratories, multinational companies such as IBM, Motorola and ITT are still perceived as American companies. In contrast, Inmarsat, a consortium, is commonly perceived as truly stateless.

The organization's autonomous agents in each nation, regulated by their individual governments, would be free to serve national agency and compensation customs locally, without involving either the commercial or diplomatic parts of the organization. Yet there would have to be a mechanism to replace the agent if it is incompetent or if it becomes unacceptable to its government.

When the organization does business in nations sensitive to competition, it could not compete with local PTTs in the geographic areas or market segments they already serve. When it would provide service through a PTT or agent, it would be "transparent" to the PTT or agency by providing service in the name of the PTT or agent.

The organization would work with the PTT's people, enhancing their prestige and providing interesting and challenging projects for its engineers and managers.

Even though most of its assets would be "in the sky," gateway switches and other assets would be in the served nations, and each user would have to have a terminal. The organization would not manufacture these system elements, but would encourage traditional suppliers to do so under license. The PTT would be able to buy all of the equipment in its territory from its established suppliers or to specify the supplier from whom the organization would buy the equipment. The equipment would be designed so that it could be maintained and operated by the PTT if it desires to do so. The service protocols would be put into the public domain to foster innovative design and manufacture of user terminals.

An Organizational Structure to Meet These Objectives

An organization that meets the criteria above is necessarily a combination of corporate and parliamentary forms. It would have the power to deal with important political issues while conducting an efficient and profitable business, all without conflict.

The proposed organization has two parallel components. See Figure 1.[2] One, the Operator, is a traditional commercial corporation, owned and funded by large, investor-owned companies such as the proponents of these new global telecommunications services. The other, the Parliament, has a parliamentary structure with delegates from each served nation. The Parliament owns no assets, but has diplomatic standing among its member nations. All nations would have equal standing in the Parliament.

The Parliament's main function is to franchise distributors ("Distributors") of the Operator's service in each served nation. The citizens of each nation would receive their service through their respective authorized Distributor. The Distributors are owned and operated entirely by citizens of their nations. In countries where no national Distributor is required, such as in the United States, the Distributor could be the Operator.

While it would be preferable that both the Operator and the Parliament be stateless, only a stateless Parliament is absolutely required if all of the other

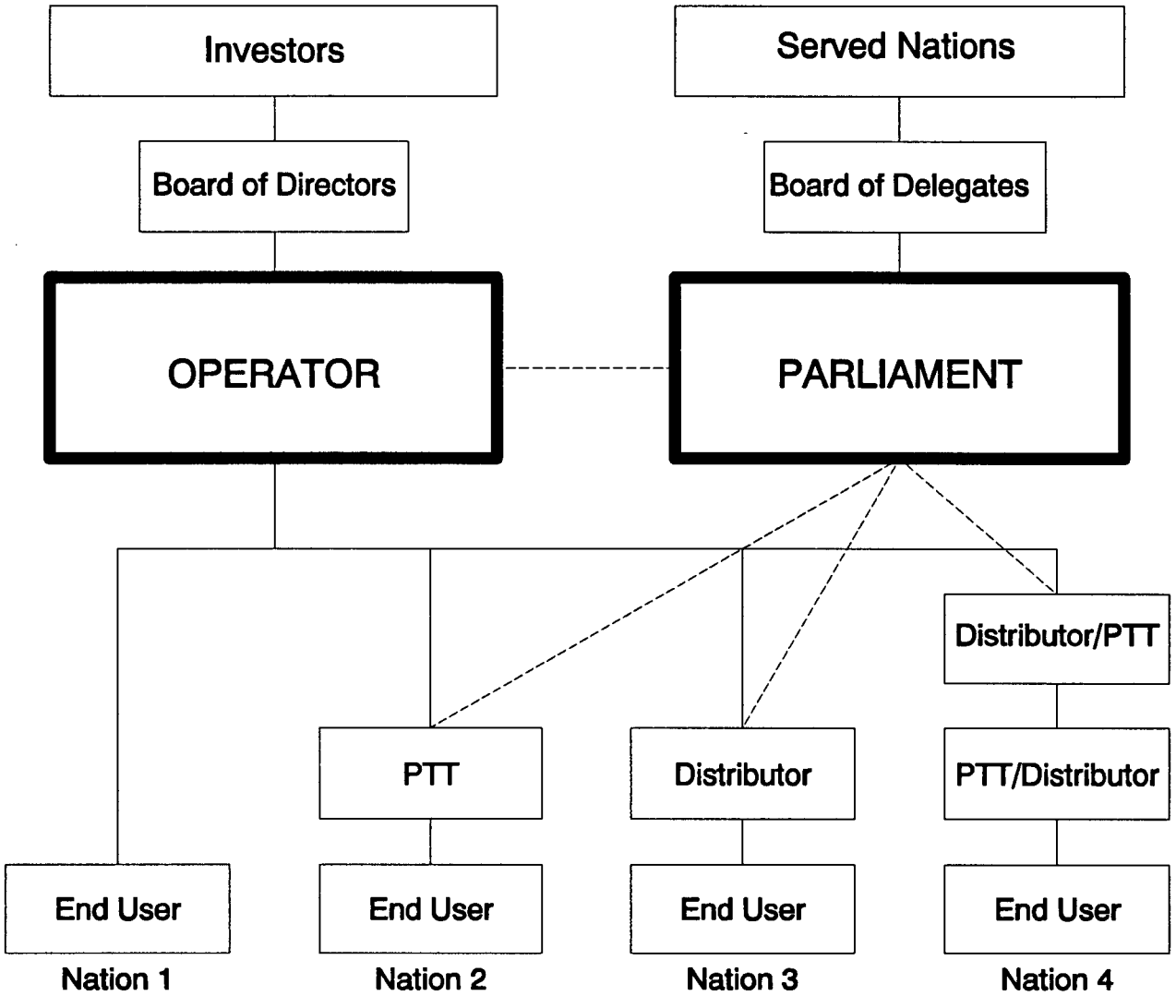

Figure 1. - Proposed Organization

conditions discussed here are met. The Operator would pay a substantial income tax to the Parliament. Those taxes would be considerably higher than the Parliament's expenses, and it is intended that the Parliament remit dividends to its member nations in accordance with an agreed upon formula. The distribution formula could be similar to that used by Intelsat and Inmarsat; any other formula would also be appropriate as long as it is fair.

The Parliament

This proposed arrangement has a number of important advantages. First, the Parliament would have diplomatic standing, and since the Parliament would be stateless, the organization's perceived threat to each nation's security would be small. It would be able to deal easily with all levels of government in its client nations.

The Parliament and its member nations would have real power and influence

through the Parliament's authority to grant and revoke franchises and set their terms, and through the Parliament's ability to distribute dividends.

Because the Parliament would have real power and be independent, its delegates would enjoy considerable international prestige. The Parliament's income would provide its delegates the status and perquisites of the diplomatic community.

The Operator

The Operator could be the individual companies proposing these new services, or it could be a new company owned and controlled by successful telecommunications companies and other investors. Its management would be a traditional hierarchy, and thus the company would be easy to manage and to understand. It would own and manage all assets, all commercial cash and all vendor relationships. The Operator would implement standard corporate accounting and managerial controls. And, there is no impediment to any country wishing to invest in the Operator independent of participating in the Parliament.

The taxation scheme would form a real bond between the Operator and the Parliament. Because each is truly an independent organization, there must be a mechanism to assure the Parliament's loyalty to the Operator. Moreover, both the Parliament and the Operator must share the same business goals. Since each would have a share in the profits, there would be a real incentive for both the Operator's management and the Parliament's delegates and nations to maximize the Operator's margins and to minimize its operating expenses.

There is some danger that the Parliament would violate its charter and seek to increase its revenues by charging its Distributors a large annual fee on gross revenue, which would increase the Parliament's income at the expense of the Operator's. However, the Operator would charge the Distributors directly for its services, and would have equal power to seize revenues. In addition, the Operator would serve certain high-revenue nations directly and thus would always be able to enforce market discipline. Both the Parliament and the Operator could deny service to a nation if required to maintain system economic stability. This threat of a standoff, typical of normal political and economic checks and balances, would be sufficient to prevent abuse by the Parliament, the Operator or Distributors.

Distributors

Each Distributor would be a commercial entity, with a franchise agreement that contains sanctions for non-performance and sets standards of conduct, defines territories, and the like. The Parliament would adopt a world-wide numbering plan to assure each Distributor that it receives credit for services rendered to its customers no matter where they are located at the time of service.

The Parliament would not collect a fee from the franchisee. The Parliament could revoke its franchise for non-performance or other causes, and the revocation could be easily enforced by the Operator, which can deny or modify service. Besides providing for quotas and service standards, this arrangement provides a mechanism to deal with changes in political leadership and to mediate disputes among Distributors in adjacent nations.

Each Distributor's ownership, and its regulatory and financial arrangements with its nation's PTT and other government officials would be private matters between the Distributor and its government, and thus correspond to local law and custom. Neither the Operator nor the Parliament would be involved in these local transactions, nor indeed require more than general knowledge of them.

The role of the Distributor would vary from country to country, depending on the nation's political system, the degree to which it regulates telecommunications and its customs and laws governing conflicts of interest. Four different arrangements of franchised Distributors is envisioned. First, in countries with open market access to telecommunications services such as the United States and Canada, the Operator would be the franchised Distributor.

Second, in those nations where the PTT has a firm monopoly on telecommunications, the PTT would be the franchised Distributor. The Operator would be completely transparent to the end user. The end user would deal only with the PTT and see only the PTT's name on bills and equipment.

Third, in those nations where competition is permitted but local ownership is desirable, the Distributor would provide services in competition with other telecommunications service providers. The service would be provided by the Operator in the name of the Distributor, and the end-user would see only the Distributor's name on his bills and terminals. The Operator would assist the Distributor in billing to the extent appropriate, including providing billing software.

Finally, in some countries it is necessary for foreign companies to use a local agent to sell goods and services into that nation. The agent receives a commission for this role. In these cases, with the permission of the government, the Distributor would be a passive agent collecting a commission on services provided by the Operator. The apparent provider of the service could be the Operator, the PTT, or some other local entity. The Operator or the local entity could also be the billing entity.

Implementing the Proffered Organization

Can the proposed organization be created today? As expected, the answer is "Yes, but." Many of the required organizational components exist today, or the charter of some existing and proposed organizations can be modified to allow them to perform the functions described here.

At least three world-wide satellite telecommunications service provider organizations encompass parliamentary elements, Intelsat, Inmarsat and Intersputnik. Both Intelsat and Inmarsat are owned by the countries they serve. Each country's ownership share is determined by a formula based in part on traffic generated. The governing bodies of both Intelsat and Inmarsat are "parliaments" of elected representatives. Only a relatively minor change in charter would be required to allow Inmarsat or Intelsat to fulfill the functions of the Parliament described above.

On the other hand, an entirely new Parliament could be created by issuing a tender and inviting any and all countries to participate in this new organization.[3] To better address regional issues and concerns,

the Parliament could be made up of representatives of regional mobile satellite service ("MSS") providers.

All of the system proponents today envision a traditional corporate form with all functions falling within the charter of the corporation. Each is actively soliciting investment in its system. To the extent any of the system proponents is successful in raising the required capital, they can be the Operator described above. However, for any of the system proponents to become the Operator they would have to conform to the parameters set forth above for the Operator and its relationship to the Parliament.

One only need look at any country around the world to find examples of existing organizations that could be Distributors.

Conclusion

The satellite systems that have been proposed to enable direct mobile voice and data telecommunications on a world-wide basis are all technically feasible. Whether they are economically and financially feasible only time will tell. None of them, however, are institutionally feasible because they have to date failed to propose organizational structures capable of addressing the often conflicting political and cultural issues of the countries to be served. It is tautological that unless a system proponent gets the right to serve a large number of countries of the world, its system is uneconomic and unfinanceable.

The organization proposed here is a paradigm for global telecommunications enterprises. Its foundation is fair treatment of all cultures and polities. It relies upon and fosters the good will of all nations. Its strength is in its stability. When each of its parts and its people work in their own self-interest, they also work for the good of the whole. It converges toward simplicity and fair dealing. Further, as its developing member nations, one by one, embrace modern business practices, it is to the direct and immediate good of that nation and of the organization as a whole.

Admittedly a "chicken and egg" problem exists. The proposed organization may offer a solution. Perhaps the Parliament should be formed first. It could then select as the Operator the system proponent or proponents that offers the nations of the world "the best deal." Perhaps there could be more than one. But, these speculations must be considered at another time.

Notes and References

1. Intersputnik was similarly organized, but is not discussed here.

2. Adapted from a drawing by Mr. Edward F. Tuck, Managing Director, Kinship Partners.

3. Friendly Islands Satellite Communications, Ltd. (TONGASAT) issued such a tender for the formation of an international consortium to provide global mobile satellite services ("MSS"). TONGASAT Press Release, April 24, 1992.