Space WARC and the Role of International Satellite Networks: A Discussion Paper on American Strategy

by Wilson P. Dizard

Columbia Institute for Tele-Information
Graduate School of Business
Columbia University
809 Uris Hall
New York, NY 10027
(212)854-4222

SPACE WARC AND THE ROLE OF INTERNATIONAL SATELLITE NETWORKS

A DISCUSSION PAPER ON AMERICAN STRATEGY

by

Wilson P. Dizard

Senior Associate
Center for Strategic and International Studies
Georgetown University

November 1984

This paper was presented to a conference entitled: Tracing New Orbits: Competition and Cooperation in Satellite Development.

SPACE WARC AND THE ROLE OF INTERNATIONAL SATELLITE NETWORKS
A DISCUSSION PAPER ON AMERICAN STRATEGY

SUMMARY

Satellite networks have transformed world communications in less than twenty years. The changes have been so swift that many of the conditions which guided the first generation of satellite development are outdated, one result of a stunning success in global cooperation.

A major attempt to redefine international rules for satellite development will take place next year. The occasion will be an ITU World Administrative Radio Conference - the so-called Space WARC. The conference will be held in two sessions, the first in August 1985, and the second in 1988. Both sessions will deal primarily with technical and administrative matters. The Space WARC agenda focusses on a review of the procedures whereby the ITU administers access to two natural resources needed for satellite communications. They are radio frequencies and the geostationary orbit (GSO) - the vast circle above the Equator where most satellites are placed. (The full text of the 1979 ITU resolution defining the Space WARC agenda generally is given in Appendix A.)

Behind the conference's technical discussions, however, are important political and economic implications, affecting

international communications development generally and American interests specifically.

This paper will discuss U.S. strategy for the conference as it relates to one critical aspect of the meeting. This is the paradox that the conference agenda does not deal with the most important players in global satellite operations. These are the multilateral organizations which run the international networks. The most important of the organization, is Intelsat, the 109-nation consortium which provides services, directly and indirectly, to 175 countries and other jurisdictions worldwide. There are other networks: the Soviets, Europeans, Arabs and Indonesians have, now or in the near future, smaller systems. Collectively these multilateral organizations are responsible for over 90 per cent of all satellite traffic. (The remainder involves primarily U.S. domestic networks.) The multilateral organizations (and, pre-eminently, Intelsat) are, in short, the key players in global satellite communications.

Intelsat and the other networks will be at the Space WARC as non-voting observers. Their interests will be represented fractionally by their members, who make up 75 per cent of ITU's constituency. The reason for this is that the Union is, in the U.N. pattern, an organization of sovereign nations.

As a result, the Space WARC agenda is shaped in terms of national interests. Specifically, its discussions will center around differing views of sovereignty rights as they relate to access to satellite radio frequency and geostationary orbit resources. Is access to these resources essentially a free right of any nation, based on needs and capabilities to use them? Or

are they (in the Third World phrase) "the common heritage of mankind," to be allocated equitably to each country on a pre-determined formula?

The United States and other "Northern" countries support the former approach. Current ITU procedures generally conform to this relatively unencumbered access, subject to technical-coordination standards. As a result, there has been considerable flexibility in the availability of these resources - an important element in encouraging the rapid expansion of satellite networks over the past twenty years. The basic American position going in to the Space WARC will be to preserve this flexibility.

The less developed countries (LDCs) are the ITU majority. They will come to the conference supporting major changes in the present system. Their goal is a regulatory regime which will give them (in two key words) "equitable" and "guaranteed" access to satellite frequencies in certain services and to GSO resources. In most of their proposals, this will translate to some form of exclusive "ownership" of these resources, country by country. Any formula that is adopted will recognize the need to adjust this vesting to such factors as geographical size of an individual country and/or to its population. However, the overall result will be to lock in frequency and GSO resources to a large number of LDCs (e.g. Belize, Nepal, The Gambia) which have no foreseeable plans for developing a national satellite system. The current satellite ground rules will be changed in a significant way. There is a rough analogy to the more complex Law-of-the-Sea negotiations of the past decade.

The stage appears set for another North-South confrontation on a global resources issue.

This is, however, too simple a scenario for the Space WARC. As suggested above, it ignores the fact that, day by day, almost all satellite communications are carried out by multilateral organizations, and particularly by Intelsat. The conference will make its decisions, under current arrangements, on the basis of national claims to access to frequency and GSO resources. Whatever the final decisions, the needs of the multilateral organizations will be squeezed into a national-sovereignty formula, as they are now.

This discussion paper will review the implications of this for U.S. strategy at Space WARC. It will examine whether, and how, Intelsat and other multilateral organizations might play a more active role in proposals for moderating the competing approaches to satellite-resource access which will be submitted to the conference.

The rationale for looking at this prospect is clear cut. Intelsat is, in reality, the guarantor of equitable access to satellite services for most ITU members, particularly in the developing world. Vesting claims to frequency and GSO resources will have no practical effect on strengthening the opportunities for equitable, guaranteed service for these countries. Such vesting pre-supposes that a country will develop its own national satellite system - an assumption that does not apply, for economic and other reasons, to most of the ITU's 159 members.

These realities are well-known to everyone involved in Space WARC. They have been obscured primarily because of the

reluctance of the two sets of contending players to raise them publicly, presumably for fear of compromising their initial "hard" positions. A number of American studies (including one by an FCC industry advisory committee) have discussed the issue. By and large, however, the subject has tended to be given a secondary status in Space WARC planning exercises.

In reviewing the present role of Intelsat and the other multilateral organizations in the Space WARC negotiations, this discussion paper suggests that the United States has a strong interest in actively examining a negotiating option that would give Intelsat and the other networks an explicit role in any future ITU arrangements for frequency and GSO access.

Any expanded role for the multilateral organizations will require some scaling down of the present nation-oriented focus of both the Northern and Southern positions at the conference. Given strong sensitivities on sovereignty, this will be difficult to do. The alternative, however, could be a conference outcome which would impose regulatory conditions unfavorable to the steady current expansion of world satellite resources, to the detriment of all countries.

THE BACKGROUND FACTORS

To begin with, there is a specialized jargon in international telecommunications, as with any business. In order to complement other documents on Space WARC subjects, it is useful to adopt several specific phrases. In the ITU, member-nations are referred to as "Administrations." Multilateral

organizations like Intelsat are usually called "Common User Organizations." In this paper, to reduce prose clog, they will be referred to as CUOs.

In order to put the CUO issue in relationship to other Space WARC factors, it is useful to summarize two points: (a) the Space WARC process itself and (b) the current procedures by which the ITU handles coordination of radio frequency and geostationary orbit (GSO) resources.

Space WARC conference activities have been divided into three parts. The first is to consider the current situation for use of the geostationary orbit for communications satellites. The second is to decide what alternative arrangements may be necessary and for which frequency bands and services. Finally, the conference is to decide what principles and criteria should guide any alternative arrangement. This latter task will probably not be taken up until the second session of the conference in 1988. One certainty is that the Space WARC will modify a number of current ITU procedures. In order to understand the complexities involved in any changes the conference recommends, a brief review of the way in which access to GSO and frequency resources are handled under current procedures is in order.

The responsibility for this process has been assigned to an ITU component, the International Frequency Registration Board (IFRB). The Board is a semi-autonomous unit within the ITU structure. Under the present system, ITU Administrations submit requests for frequency and/or GSO resources to the IFRB for registration on its Master Register. The claim is honored if it

conforms with established technical criteria, and if it is not challenged in terms of interference with a previously registered claim by another Administration. The IFRB is not a regulatory agency in the normal sense of the term. Its role is to confirm or ratify the outcome of the registration process rather than to adjudicate or enforce any decision.

If a registration is challenged on the basis of harmful interference to a previously-registered frequency or GSO slot, the matter becomes a subject of bilateral consultation between the concerned Administrations. The IFRB may assist in the process but it is not designed to satisfy competing claims through enforcable regulatory sanctions. The system is porous enough that, in situations where an Administration is clearly the offending party in an interference issue, it can insist that its claim be listed in the IFRB Master Register.

In terms of the Space WARC and its issues, it is important to note that the current IFRB system is not a structured planning process in the sense of identifying and enforcing optimal use of limited frequency and GSO resources. Its focus is on servicing one-at-a-time claims to a specific part of the resource. Resource conservation as such is not a factor. One result is that the IFRB Master Register contains many registrations that are unused or misused, complicating attempts to reduce congestion in international frequency use.

The primary beneficiaries for this so-called "first come, first served" system of registering frequencies and GSO "slots" have been the big satellite powers - notably the United States

and the Soviet Union. The other big beneficiary has been Intelsat, whose satellites carry the great bulk of international traffic. During the first two decades of satellite communications, there have been relatively few difficulties in obtaining available frequency and GSO resources. However, in two instances in recent years, two Third World countries - India and Indonesia - have had problems coordinating their satellites with those of Intelsat and the Soviet Intersputnik network. These incidents, which were resolved, tended to reinforce LDC claims that it will be increasingly more difficult for them to have access to increasingly limited frequency and GSO resources as the big satellite powers continue to expand their present systems.

This will be the nub of the Space WARC debate during two sessions spread out over a three year period.

At the present time, the CUOs are essentially outsiders to the debate. The ITU is an organization of sovereign states; the CUOs attend its conferences as observers. Their interests in ITU regulatory coordination are handled by individual states, known as Notifying Administrations. (The U.S., and specifically the FCC, serves this role for Intelsat.) There are also working contacts between Intelsat and the ITU for coordination and other matters. Nevertheless, the essential point is that the CUOs currently have no direct administrative or legal representation within the ITU framework. Thus Space WARC interests will be decided by its members, acting individually or in regional or ideological groups. Although Intelsat, in particular, has discussed Space WARC issues within its own governing bodies, there will not be an "Intelsat caucus" at the conference.

Despite this arm's-length relationship with the ITU, the CUOs will be directly affected by any decisions the conference takes. Their organizational interests would probably be best served if the conference makes no significant changes in the present ITU procedures. The current system is flexible enough to give CUOs the GSO slots and frequencies they need with relatively few coordination difficulties. It is unlikely, however, that the present procedures will be left untouched. The more probable outcome involves some form of more structured planning and coordination process, with the possibility of pre-assignment of GSO slots and frequencies on a country-by-country basis. Whatever variation is selected, such an outcome would not be helpful to Intelsat in particular. Rigid pre-assignment, from which it would be excluded by definition, could limit the present range of flexibility it enjoys in effectively planning and coordinating its GSO and frequency requirements.

Realistically, any preassignment plan will have to consider Intelsat needs. This could involve, for instance, some form of arc-segmentation arrangement for its GSO requirements. Whatever accomodation was made, however, Intelsat would be locked into a long-range planning system that could limit its ability to respond to options made possible by advances in satellite technology or by its own changing operational needs. The result would be to limit capabilities for efficient aggregation of both its own services as well as GSO and frequency resources.

As suggested above, these prospects are directly relevant to preparation of U.S. proposals for the conference. Intelsat and

other CUOa represent an important factor in any viable middle ground between the current essentially open-ended system which benefits big satellite powers and the extremes of rigid a priori procedures which could tie up otherwise useful resources in an essentially political solution that would, at best, only partially respond to legitimate future LDC satellite needs.

How does the CUO factor fit into a workable U.S. strategy? Basically the United States seeks a viable formula that will continue to provide the flexible benefits of the present ITU procedures, adapted to LDC concerns about future access to GSO and frequency resources. It will, in particular, have to address alternatives for "guaranteed" access short of LDC resource-vesting proposals. There are number of components involved here - technical, political and economic. This paper will discuss the CUO factors which are common to each of these in any overall U.S. strategy. The paper makes the following assumptions:

1. There are flaws in the present procedures in terms of providing sufficient assurances for practical access to GSO and frequency resources down the road for both new entrants as well as present operators. At a minimum, the United States will have to propose some adjustments in the present procedures to accomodate LDC concerns.

2. The LDC proposals for rigid a priori vesting of rights in these resources, country by country, lower the prospects for guaranteed access by reducing the overall ability to adjust the resources flexibly as overall access needs evolve.

3. The pragmatic guarantor of international access for

most ITU members are the CUOs. About 125 of the Union's members are also members of one or more CUOs. The remainder are, by and large, mini-states with little or no international traffic. In the case of Intelsat in particular, equitable access is reinforced at three levels:

- technical, through planning procedures that consider the international and domestic needs of Intelsat members in the design of advanced satellites and in their operational modes.

- economic, through efficient aggregation of GSO and frequency resources, together with tariffing procedures that favor smaller countries and profit-sharing arrangements that can help finance overall national telecommunications development.

- political, by providing each Intelsat nation with an element of control over organizational decisions in the planning and operational process. Through weighted voting procedures, Intelsat decisions are still dominated by a small group of industrial nations, the heavy users of the system. However, smaller nations have increasing influence, through aggregation of their shares by region (as provided for in the Intelsat permanent agreements) or through direct pressure on the organization's plans.

4. In its Space WARC proposals, the United States will have to consider the role of the CUOs in any viable plan for future GSO and frequency coordination. Its options run from a continuation of present procedures to proposals for giving CUO's a more direct role in the ITU coordination process. This paper

examines the latter set of options.

5. Any proposals for giving CUO's a more direct role should be developed as realistic alternatives to current LDC a priori planning proposals. There is a range of options here. Their common theme will be to raise the "guarantee threshold" by involving the CUOs in the planning process in ways that take advantage of their ability to meet members' needs on an efficient collective basis. In effect, they would have some form of priority consideration in the coordination process, working out efficient patterns within and between CUOs. Their planning would carry special weight in the overall process because of their ability to aggregate GSO and frequency resources more efficiently.

6. Any such special consideration would not abrogate or modify the right of any ITU Administration to register its own national requirements through the Union's current procedures. The difference, of course, is that (under some formula) their needs would be considered in a "second round," after CUO requirements are submitted. The second-round procedure would involve coordinating overall CUO requirements with individual national requirements. The presumption is that most national requirements would be accomodated in the initial round.

Before looking at some of the CUO options available to American preparations for the Space WARC, it is useful to review background factors pertinent to any decisions in this area.

THE MISSING CUO FACTOR

The obvious question to ask is why hasn't the CUO factor received more attention? Collectively, they represent the largest single operational element in international satellite communications. Intelsat alone handles more than half of all international traffic, if one includes cable traffic but excludes microwave and other regional traffic in North America and Europe. Despite this massive reality, Intelsat and the other CUOs are effectively on the sidelines in any formal discussion of future international regulatory arrangements such as the one that will take place at Space WARC in 1985 and 1988.

The orthodox reason for this is the structure of the 125-year-old International Telecommunications Union. By custom and by treaty, it is tied to the fiction of the pre-eminence of national sovereignty in telecommunications matters. At a time which national boundaries have become increasingly less relevant to telecommunications, the sovereignty factor has been strengthened in the ITU. The reason for this, of course, is the value that the majority of the Union's members, the smaller developing nations, put on their influence in a one-nation, one-vote organization. No plan that would cede significant powers to the CUOs, superceding the present distribution of sovereignty, would be acceptable. Any modification of ITU coordination procedures will have to accomodate to this fact.

Resolution 3 of the 1979 WARC, which recommended the Space WARC, focusses only on national access to resources. This is despite the fact that, in reality, no more than ten percent of the Union's member have, or can be expected to have, in the

foreseeable future, need for direct access to GSO or frequency resources. In any event, there is no mention in the resolution of the role of the CUOs as a factor in any revised planning procedures.

This is not the result of mass amnesia about the CUO role, or any lack of understanding by the key players on the need to fit the CUOs into any planning process. The reasons are essentially political. The activist Third World countries which engineered the Space WARC resolution were primarily interested in keeping the focus on resolution language that would imply the need for some form of sovereign vesting of resources. Any mention of the CUOs would have deflected this focus. The United States and other big satellite powers attempted, with some success, to get language in the resolution which would not prejudge the planning method. Again, any special mention of the role of the CUOs would have deflected this focus. As a result, in the intense negotiating over the resolution language, there was no consideration of, or interest in, explicitly acknowledging the potential role of the CUOs in the Space WARC agenda. In summary, the CUOs and their interests will be a large and shadowy presence at both sessions of the Space WARC, the largest single satellite resource of a majority of the delegations but represented, as such, by none.

DEFINING THE COMMON-USER ORGANIZATIONS

Who are the CUOs? The answer would seem simple enough, but not in the current complexities of international satellite affairs. Defining the CUO's will, in fact, be a major element in

any strategy for factoring them into a revised ITU planning mechanism.

The obvious definition of a CUO is an organization of two or more ITU Administrations which jointly own and operate a satellite system for their international and/or domestic requirements. Intelsat is such an organization. Several regional organizations also fit this definition, e.g. the Arabsat group.

There is a second definition. This is a satellite facility which is owned, or under the regulatory control, of a single ITU Administration but whose services are utilized by one or more other Administrations under bilateral arrangements. The current example of this is the Indonesian Palapa II satellite. Palapa circuits are leased by Malaysia, The Philippines and Singapore. Another variation on this are the several commercial proposals in this country to lease or sell satellite capacity for international operations in the North Atlantic region.

The distinction between these two types of CUO arrangements is important. This paper will restrict itself to a discussion of the first type, i.e. jointly-owned and operated systems. It is quite possible that arrangements of the second type will become more common in the future. Given attitudes within the global telecommunications community, however, it is unrealistic to expect that the Space WARC conference would agree to any kind of special status for common-user facilities owned or regulated by a single Administration. Any such proposal would be perceived as seeking preferential treatment by one set of Administrations vis-

a-vis the others. It would also be challenged by the orthodox CDOs.

Moreover, in terms of the specific focus on U.S. interests in this paper, there is a strong case against supporting preferential treatment, for several reasons:

1. Although the U.S. has an interest in encouraging commercial international satellite operations by American firms, advocacy of preferential treatment that might benefit these firms could be interpreted as a lessening of the U.S. commitment to Intelsat. There is, moreover, no firm indication, now or in the future, that U.S. firms would need such protection.

2. The U.S. has little interest in encouraging the development of national satellite systems abroad which might adopt a strategy of leasing services (such as the Indonesians now do) to other countries in ways that may undercut Intelsat.

3. The U.S. has an interest in encouraging smaller countries, particularly in the Third World, to continue to rely on Intelsat for their international and domestic needs, or on jointly-owned regional systems. In terms of their own self-interest, such jointly-owned systems can provide developing countries a wider range of services than national systems. More important, reliance on other national systems can involve a significant loss of control by a country over its own telecommunications. Participation in Intelsat or a jointly-owned regional systems gives them some role in the planning and operation of the system.

This, in turn, forms a critical part of the strategic argument against the a priori planning proposals being advanced

actively by those developing countries who are in a potential position to become regional satellite leaders, e.g. India, Brazil etc. It is relevant to ask the smaller developing countries whether their essential interests are best served by reliance on these regional "big powers" and, in particular, whether they are not better off with a modified ITU planning arrangement that gives more adequate attention to the needs of the Intelsat system and other common-user organizations in which they have more direct control.

In summary, any U.S. proposals for giving greater recognition to common-user needs should be restricted to the inclusion of jointly-owned multilateral organizations in any revised coordination planning asrrangements.

THE U.S. INTEREST IN A CUO STRATEGY

In examing any strategy for an enhanced CUO role in ITU coordination procedures, it is useful to note that CUO and U.S. interests are not always the same. Historically, U.S. policy has been to support Intelsat as its chosen instrument in international satellite affairs. Although the U.S. has only a 24 per cent controlling share in the organization, it is the dominant voting power.

More recently there has been a small but significant shift in the longstanding policy of unquestioned support for Intelsat's role as the monopoly global carrier. This shift has taken place with the proposed entry of commercial U.S. satellite carriers in inter-continental operations which will have some competitive

effect on Intelsat traffic. This debate, currently carried on in an intensified form, will have to be kept apart from any U.S. proposals for an enhanced role for regular common-user operations at the Space WARC. The best way to do this would be, as suggested earlier, to eliminate any nationally-owned or regulated multilateral operation from consideration as an international common-user organization.

Within the U.S. government, several planning exercises have given specific attention to the role of the CUOs in space communications policy. They are a Congressional Office of Technology Assessment (OTA) study in 1982 analysing the results of the 1979 WARC, and an FCC industry advisory group on preparations for the Space WARC. In addition, a May 1984 FCC Notice of Inquiry discueses the subject.

The OTA study suggested the need to plan world satellite resources on the assumption that domestic satellite capacity in most countries would probably be made available on a joint-use common-use basis through Intelsat and regional arrangements. The study proposed greater policy attention to the role of CUOs in fashioning a viable overall satellite strategy.

The OTA report goes so far as to suggest that the United States and other developing countries should encourage privately-funded joint ventures with developing countries to construct and operate regional CUO systems to meet their current domestic telecommunications needs. Such an approach, the report suggests, would offer the prospect of relieving the pressure on LDC support for an a priori planning regime: "If low cost and technically attractive domestic satellite capacity is made available through

an international organization that accomodates the sovereignty interests of each country, many developing countries could come to see access to orbital slots and satellite frequencies as a side issue with availability of service being the main objective."

The relationship of the COOs to the Space WARC is also discussed in a 1984 FCC industry advisory committee report on Space WARC planning. The committee reviewed possible U.S. approaches to integrating COO needs with those of individual countries. Its comments are significant in reflecting an approach that is consistent with the overall U.S. goal of maintaining the flexible aspects of the current ITU resource-assignment mechanism.

The committee's Working Group C looked at a range of proposed planning methods which might be considered at the Space WARC. In evaluating middle-ground methods which could be acceptable to the United States and like-minded Administrations, the group chose as first among the "preferred order" of planning methods a combination of "access demand planning" and "guaranteed access by means of multilateral coordination." Both of these methods are consonant with the concept of an enhanced COO planning role discussed in this paper.

Working Group B of the committee conducted an intensive review of the legal and institutional factors involved in Space WARC issues. The institutional study, in particular, discusses the COO role in any workable resolution of these issues.

The committee's January 1984 report drew upon these studies in making its major point that the "United States should be

prepared to make concessions to preserve the essential advantages of the existing regime." It then goes on to discuss,in general terms, how this might apply to CUOs:

> "... as a legal matter, the United States should be prepared to advocate the position that conflicts between individual states and common user institutions should be resolved consistently with any independent treaty obligations imposed by the charter of the common user organization. As a corollary of this notion, when the conflict exists between a common user system and a state or states that are not bound by its treaty, 'equitable' access objectives might be satisfied by an accomodation that confers the greater good to the greater number of states. Alternatively, an arbitral procedure to arrive at an internationally refereed decision might be used. In these ways, common user systems might have rights regarded as equal to those of independent systems sponsored by individual Administrations acting outside of a common user framework. The United States could propose that such principles be integrated into the existing coordination procedures."

As noted above, current ITU procedures have been generally successful in permitting CUOs to provide a high degree of "equitable" and even "guaranteed" access to satellite services by their member-nations, i.e. the overwhelming users of international satellite communications. The FCC advisory committee report is correct in noting that ITU regulations involving the CUOs "provide a working reconciliation of the sovereignty notions that underpin the ITU with the collective decisionmaking that characterizes international organizations."

The FCC has also issued four Notices of Inquiry (NOI) in preparation for the first session of the Space WARC. (These notices are intended to invite public comment on policies and proposals currently before the Commission.) The fourth and

final Space WARC Notice, issued in May 1984, discussed, among other subjects, a possible planning role for the COOs. Specifically, it reviews the option that ITU Administrations could identify their future network needs through "different institutional settings." The Notice points out that these potential settings can vary in terms of their jurisdiction (world, regional and sub-regional) and the kind of forum to be used. This could be, the Notice suggests, an ITU forum or a non-ITU multilateral body. This latter category could, of course, include Intelsat and/or other common-user organizations, although these are not mentioned specifically. The Notice points out that some combination of one or more of these mechanisms is also possible.

The FCC document makes the important point that a wide variety of multilateral facilities planning activities already exist. The United States participates in a number of these on a continuing basis in the North Atlantic, Pacific and Carribean regions. There are comparable arrangements in other regions. Additionally, the two ITU technical consultative committees (CCIR/CCITT) have related planning exercises. Finally, Intelsat engages in a similar identification process on a quarterly basis.

In the NOI comments on this subject, the Commissions says that it is not "unalterably opposed to the use of multilateral forums for the identification of satellite requirements." This is, obviously, a backhanded way of saying that it doesn't think much of the idea. Its preference (reflecting overall U.S. government policy to date) is to cite what it calls the "many

compelling reasons for relying on the initiative of individual Administrations to unilaterally identify and describe their required satellite networks on a case-by-case basis as they arise, using the IFRB to disseminate the information."

The foremost reason for favoring this approach, the NOI states, is the complexity of the technical and operational aspects of designing and using satellites. Moreover, it notes, the subject is complicated by the range of domestic policies involved in each different country. The Commission's conclusion is that attempting to shift this procedure from its present focus on individual Administration planning to a multilateral forum would lead inevitably to substantial difficulties.

There is no question about the soundness of the commission's comments on this subject in terms of longstanding U.S. interests. This country has a highly-structured system for processing governmental and private-sector GSO and frequency needs. The system is designed to operate effectively within present ITU procedures.

The essential point for any Space WARC strategy is that these procedures are going to be modified. Whatever benefits the LDCs - the ITU majority - now get from the present system of multilateral facilities planning activities, these activities are not perceived as enough to satisfy the "equitable" and "guaranteed access" standards set in the Space WARC agenda.

The extreme LDC position is to impose a strict planning regime, involving pre-determined "ownership" of GSO and frequency resources. To counter these views, the U.S. proposals must be responsive to the essential elements of "equitable" and

"guaranteed" access, while retaining a realistic measure of the present flexible procedures. The current consultative arrangements described in the FCC Notice can be an important continuing part of any such pattern. But, given the political situation at the Space WARC, something else is needed. As this paper suggests, a closer look at the role of Intelsat and the other CUOs should be part of any approach to a workable U.S. strategy.

It would, of course, be naive for the United States to base its Space WARC strategy on the assumption that, if the present system works, there is no problem. There is a problem as long as the adoption of some sort of long-range a priori allocation system is possible. LDC thinking on this subject was formed, in part, after two leading LDC activists, India and Indonesia, had difficulties in coordinating domestic satellite and GSO frequency needs with Intelsat and Intersputnik (the Soviet network) in the 1970's. The fact that these coordinations problems were resolved should not obscure the equally important fact both India and Indonesia had to make technical concessions which they regarded as harmful to optimal efficiency of the systems they were planning. These two examples will be cited repeatedly by Third World delegations as justification favoring a priori planning arrangements at the Space WARC.

For the United States and other industrialized countries, the question is whether the present coordination procedures as they affect the CUOs can be improved in ways that deflect such criticism as well as provide a more viable basis for

coordinating both CUO and national needs. The thrust of this paper is the need for a closer examination of a strategy which would give a greater positive role to the CUOs in aggregating the resource needs of their members as the initial step in the ITU planning and coordination process. Coordination difficulties between this CUO aggregation process and independent national requests, could be resolved through an "arbitral procedure to arrive at an internationaly refereed decision" (in the words of the FCC advisory report). The result would be (as the FCC report implies) a newly-defined form of equality between sovereign states and the CUOs in the procedures for sharing resources.

There are hazards for U.S. interests in this proposed process. As the largest single user of both domestic and international satellite facilities, these interests, potentially at least, are at risk in submitting to arbitration procedures that go beyond the current general formulations. There is a specific risk, directly touching on national security interests, if the process were to affect the considerable U.S. stake in military satellites. Any revised coordination formula would have to include assurances protecting the sovereign right of any country to obtain its basic satellite resource requirements. Given the strong proprietary interest that most ITU Administrations have about these rights, any radical modification is not a likely prospect. Nevertheless, some modifications are implied in any formula that narrows the gap between the present unobstructed view of sovereign rights and the lack of CUO rights.

With these caveats, it is reasonable to assume that proposing some form of enhanced role for Intelsat and other CUOs

in an ITU satellite-resources planning process would be in line with basic American policy and interest. The hazards lie in the details of what may finally be decided at the Space WARC.

It is useful now to turn to an analysis of the present and potential attitudes of other countries towards proposals for more direct CDO participation in the ITU coordination process. These countries divide roughly into three groupings - the Third World, the Europeans and the Soviets.

THIRD WORLD ATTITUDES AND ACTIONS

Space WARC is largely the result of an initiative by Third World countries to correct what they perceive is the imbalance in apportioning satellite resources. The initiative came largely from a small group of countries which had the technical expertise and the political will to force the issue at the 1979 general WARC conference. These countries were India, Brazil, Algeria, Indonesia and, on the fringes, Yugoslavia. Most other developing countries played a very small role in the process, except to provide general support for the initiative.

There has been no significant questioning within the Third World of the need to revise present ITU procedures along the "equitable" and "guaranteed access" themes of the 1979 resolution mandating the Space WARC. Developing countries have often demonstrated their ability to vote their own interests in ITU conferences even when these interests conflict with overall Third World ideological appeals. On the key Space WARC issues, however, they can be expected to support (at least initially) a

priori planning recommendations for meeting the "equitable" and "guaranteed" goals set out in the conference agenda.

Over and above the ideological appeals at Space WARC, developing countries will cite what they consider to be a major precedent in support of a priori planning. Specifically, they will argue that the United States and other satellite powers have agreed to similar procedures in past ITU conferences. Their major example will be the decisions of a 1977 ITU conference on direct broadcasting frequencies in which specific GSO and frequency resources were vested on a country-by-country basis. (The agreement did not initially cover the United States and other Western Hemisphere countries, which adopted a modified version of the 1977 agreement in 1983.) The analogy between the 1977 agreement and the a priori proposals that will be submitted to the Space WARC is, however, an imperfect one. The 1977 plan involved a single satellite service. It dealt with a common technical standard, as well as a technology that had not been actively put into service. None of these conditions apply to the complex series of satellite services that will be looked at in the Space WARC. Nevertheless, the 1977 precedent will be prominently cited as an example of the feasability of a priori planning and vesting of resources.

In summary, the Third World majority will come to Space WARC with a strong bias in favor of replicating, on a larger scale, the a priori planning pattern adopted by the ITU eight years ago for direct broadcasting .

Given this background, the prospect for workable alternatives to a priori planning may seem dim. Any

counterproposals will be treated with suspicion, including the CUO options discussed in this paper. The more vocal LDC leaders will contend that giving an enhanced role to the CUOs does not fulfill the conference mandate of guaranteed, equitable access. In particular, they will argue that it undercuts this mandate by giving preference to Intelsat, an organization dominated (through weighted voting) by the United States and other industrial powers.

It is an appeal that will have a certain force. It can be answered by setting aside the monolithic implications of the term "Third World," and examining the varied interests and motivations of developing countries in the satellite field.

In satellite matters, the most visible group of countries were those which actively sponsored the 1979 Space WARC conference resolution. They include India, Indonesia, Algeria and Brazil, among others. Their common interest is that they are either now regional satellite powers or have aspirations in that direction. Because of their early involvement in active satellite operations, they have a knowledgeable team of experts on the subject. They have been articulate, persuasive spokesmen for Third World initiatives within the ITU. However, these countries also have other, more parochial interests in their evolving role as regional satellite powers. Any proposal to strengthen Intelsat (or potentially rival regional systems) within the ITU framework will probably be regarded by them as being against these interests.

The role of these countries at the Space WARC should not be

minimized. They have a clearly defined sense of their own interest, and of its relationship to overall Third World concerns. Their message to other developing countries is an attractive one: establish your control over a critical set of natural resources in the one United Nations organization where developing countries collectively have a treaty-protected ability to do so.

The temptation for the smaller LDCs - the majority of ITU members - to accept this argument without question is strong. It involves the appeal of the free lunch, of getting something for nothing. It is an appeal that will be difficult to counter. The Western arguments emphasize technical objections to the a priori approach. However valid these arguments are, they do not add up to a successful strategy which will convince a significant number of LDCs to re-examine their generally unquestioned support for a priori planning.

A workable strategy will be directed to their broader interests in satellite communications, well beyond technical details. Their interests lie in access to satellite services, not to GSO or frequency resources. Almost without exception, they depend on Intelsat for their international satellite services. Increasingly, they also use Intelsat facilities for a range of domestic satellite services. Over the next decade, more small countries will also depend on supplemental services supplied by regional CUOs. The prospects of developing their own individual satellite facilities are, in almost every instance, remote. Thus the concept of vesting rights in a package of GSO slots and frequencies, however attractive as an exercise in international

pork-barrelling, has little practical value.

The current Third World scenario, as put forward by a minority group of activist countries, is not responsive to these realities. Purely in terms of the economics of satellite systems, most LDCs will not be able to use their vested resources for discrete national purposes. The prospect of leasing these resources to other countries or to commercial ventures is a totally unproven alternative. The only possible Third World beneficiaries of an a priori assignment system would be a small group of larger countries (India, Brazil etc.) whose populations and geographical mass justify a national system. As has already been demonstrated on a small scale in the case of the Indonesian Palapa satellite, smaller LDCs might benefit from concessional access to such national systems. The obvious disadvantage is that they would have no planning or management control, or hope of financial returns, in such an arrangement. In the not-inconceivable circumstance of political crisis within their region, they could be cut off from access to a satellite wholly owned by a hostile neighbor, with predictable harm to their own national telecommunications facilities.

All this is by way of returning to the fact that their realistic prospects, now and in the future, lie principally with COO arrangements as the best guarantee for equitable access to the services they need. This can involve Intelsat and/or regional systems. In both instances, they have a management share and the hope of a profitable return on their investment.

In summary, the LDCs break down into two broad categories,

measured by their realistic interests, as they prepare for the Space WARC. The small group includes countries which have now or will have in the future an interest in developing national satellite system, with possible regional extensions. An a priori resource-allocation process could, arguably, benefit them.

The large group - the majority of ITU Administrations - includes countries who are out of the running in terms of developing national satellite systems. Their realistic interests lie in access to a range of services provided by CUOs. They are the countries which would benefit directly from an enhanced CUO role in the ITU planning and coordination process.

This suggests a convergence of interests on the future role of CUOs, moving towards a middle-ground resolution of the key Space WARC issue, one which could serve the interests of the LDC majority as well those as the United States.

It involves, in broad terms, a planning and coordinating system that would establish a form of priority for the CUOs in identifying their GSO and frequency needs on a continuing "rollover" basis. Given the reality of Intelsat's dominant role in global satellite traffic, the requirements of most Administration would be met first by coordination within Intelsat, then by coordination with other CUOs, and finally, at the IFRB level, by coordination with those requirements of individual Administrations which are not met in the initial coordination rounds.

There are clearly a number of loose ends to be tied up in any such arrangemnt. One of them involves the thirty or more mini-states which are not members of Intelsat or a regional

system. Many of them are, in fact, serviced by Intelsat; special provisions could be made to have their interests represented by Intelsat and/or a regional grouping.

Such a pattern would provide most LDCs with a coordination regime that would rely more, in terms of "guaranteed access," on their ownership and management participation in CUOs which are capable of the technical and economic aggregation of facilities that can give them, in reality, the full range of their required services.

For the United States and its industrial partners, it would mean ceding some precedence in the coordination process to CUO needs, without however surrendering their own individual right to access to GSO and frequency resources for national systems.

EUROPEAN AND CANADIAN ATTITUDES

The Europeans and Canadians share with the United States general opposition to the kind of *a priori* plans put forward by Third World activists. As a result, they are interested in acceptable alternatives. However, their receptivity to the idea of giving the CUOs a more prominent role in any planning process is less predictable.

Like the United States, the Europeans would be concerned that any such pattern not threaten their continuing plans for domestic and regional satellite development. The Canadians would be less concerned: they have an active domestic network, plus good working relations with the United States in regional satellite coordination.

The Canadians might be most receptive to a plan which gave an enhanced role to CUOs in the ITU. They have an instinct for this kind of compromise approach. The Europeans as a group might be somewhat more wary. In particular they will be mindful of the difficulties they had in coordinating their regional satellite arrangements with Intelsat several years ago.

Secondly, the Europeans would probably weigh commercial considerations in any evaluation of such a strategy. The European satellite industry continues to play a secondary role to the Americans, particularly in the key area of Intelsat contracts. The Europeans will compete vigorously (helped by government subsidies) for the large number of satellites planned by Intelsat, other CUOs and by individual countries between now and the end of the century. As a result, the Europeans will consider the effect of these commercial prospects in any proposals for specialized CUO participation in overall satellite planning. With these caveats in mind, it is probable that the Europeans would be amenable to any strategy involving the CUOs that promises to modify the threat of a priori satellite-resource planning.

THE SOVIET/CHINESE ATTITUDES

Soviet reactions to such a strategy are, predictably, more difficult to judge. The Soviets were more adamantly opposed to the calling of a Space WARC conference than any other industrialized country. They have, of course, an equal stake in heading off any a priori planning proposals.

Despite this, they followed their usual pattern of letting

the United States and other industrialized states take the heat during the debate on the 1979 Space WARC resolution in Geneva. They will undoubtedly like to follow a similar course during the Space WARC, unless there was some indication of agreement early on in the conference on a viable alternative to a priori planning. Since this is unlikely, the Soviets will probably revert to their traditional posture of allowing the West to take the debating heat.

They are, however, realists in these matters. A strategy involving a great coordinating role for the CUOs would interest them. Their concerns would probably center around the status of their own common-user organization, Intersputnik. Traffic on their system aggregates to something less than one per cent of Intelsat's total traffic. For bargaining purposes, the Soviets might press for a formula that equates Intelsat and Intersputnik - a fiction they attempt to sustain in various international forums. Nevertheless, their interest in any workable alternative to a priori planning is probably strong enough to override such a tactic. If an enhanced role for CUOs emerged as part of an acceptable alternative to a priori planning, the Soviets would probably support the proposal.

While professing ideological sympathy with Third World concerns over resource allocation, the Chinese have generally distanced themselves from specific endorsement of a priori solutions. They probably perceive their interests in this area as being closer to those of the Western countries. They have a major interest in expanding their domestic satellite network.

aware of the WARC's importance to the organization's future. It has submitted several papers on the subject to its board of governors, providing details of the conference's relevance to Intelsat opertions. The board and the Assembly of Parties have not yet focussed on the subject. One reason for this undoubtedly is that most Intelsat members have not themselves defined their own detailed Space WARC plans. Specifically, they have not related their own national approaches to their Intelsat interests. Intelsat's strategy regarding Space WARC could be a significant element in the overall pattern of the conference, beginning with the first session next year.

Over and above the question of a possible enhanced role in ITU coordination procedures, Intelsat will have several specific concerns. One will be its relationship to other international CUOs. Intelsat is clearly the outsized member of this group and will continue to be so for the forseeable future. How will its needs be weighed against those of Intersputnik or the smaller regional networks? Second, Intelsat will be concerned about the status of nationally-based CUOs e.g., Palapa. Given the current dispute over a U.S. commercial entry into international satellite markets, Intelsat can be expected to oppose any ITU recognition of such networks as legitimate common user organizations in a revised coordination plan.

The other organization with a stake in the Space WARC outcome is the ITU. More than a century old, the Union is, among other things, an experienced bureaucracy, conditioned to resist change. This resistance is magnified by the fact that the

recognition of such networks as legitimate common user organizations in a revised coordination plan.

The other organization with a stake in the Space WARC outcome is the ITU. The 120-year-old Union is, among other things, an experienced bureaucracy, conditioned to resist change. This resistance is magnified by the fact that the organization does not have a unitary structure. Its component parts operate semi-autonomously, under a Directorate-General which provides overall management guidance and support. The ITU element most concerned with Space WARC is the International Frequency Registration Board (IFRB), the agency which carries out the coordination procedures for all radio frequencies. The IFRB will be wary of any plan which appears to threaten its traditional prerogatives. An enhanced role for Intelsat and the other CUOs in the coordination process for GSO and frequency registrations could be seen as such a threat.

However, the instinct for survival at the ITU is also alive and well. ITU officials know that a confrontational showdown at Space WARC, and the possibility of a failed conference, would be a serious threat to the Union's future effectiveness. As a result, its officials have a stake in assisting the development of compromise solutions, including those which may appear to impinge on traditional ITU responsibilities.

IMPLEMENTING AN AMERICAN STRATEGY

Any U.S. strategy dealing with the Space WARC will be a combination of elements - political, economic and technical.

There has been somewhat less attention to the overall political factors that will be as much of the conference environment as the technical.

The United States is not going to the conference to defend in toto the present ITU satellite-resource coordinating system. Such a defense would be self-defeating. There are good reasons for adjusting the system to new realities. If the United States and other countries with similar points of view cannot propose imaginative policies, other alternatives will be adopted by default. The result could be some form of rigid assignment plan and would be a step backward from the current workable, although imperfect, coordination process. Whatever its faults, the present system has been a critical factor in permitting satellite networks of all kinds to expand at a prodigious rate during the past 20 years.

U.S. policy is to secure agreements that maintain the essential flexible characteristics of the present system. The primary barriers to achieving this end are not technical or economic. They are political.

This paper has outlined the reasons for giving more attention to the CUO factor in the U.S. proposals. Such an approach offers an opportunity to moderate a large share of LDC concerns about future access to GSO and frequency resources. In developing this subject within a U.S. strategic framework, the purpose should be to establish, as a procedural matter, the level at which all ITU Administration needs can be efficiently and equitably aggregated by giving some precedence to CUOs in a new form of ITU planning and coordination process.

purpose should be to establish, as a procedural matter, the level at which all ITU Administration needs can be efficiently and equitably aggregated by giving some precedence to CUOs in a new form of ITU planning and coordination process.

The process would not pre-empt the right of any Administration to register its own national requirements at any point in the coordination cycle. The primary constraints would be those which are already in force. These provide that coordination problems between individual Administrations and CUOs should be resolved consistently with any independent treaty obligations imposed by the CUO charter. The FCC industry advisory committee has suggested a useful corollary covering disputes between a CUO and an Administration which is not bound by the CUO treaty. In such cases, the committee's report proposes that equitable-access objectives might be satisfied by an accommodation that confers the greater good to the greater number of states. Alternatively, the committee report notes, an arbitral procedure should be established.

"In these ways," the committee report concludes, "common user systems might have rights regarded as equal to those of independent systems sponsored by individual administrations acting outside of common user frameworks. The United States could propose that such principles be integrated into the existing coordination procedures."

These procedures would have to worked out carefully. By way of example, one option would be a three-step procedure for bringing the CUOs into the planning and coordination process.

The first step would be an institutional arrangement within the ITU which would specifically acknowledge the role of Intelsat and other CUOs in a planning cycle for the coordination of future frequency and GSO requirements. Intelsat and other CUOs would have priority in preparing their requirements, based on projections of their current operational patterns. This planning coordination would take place under ITU auspices between eligible CUOs. The procedure could also include ITU Administrations who are not members of a common user organization, but who might elect to have their needs included in the CUO planning exercise. In addition, Administrations which operate, or plan to operate, national systems could participate so that any requirements independent of their CUO involvement could be considered in the overall aggregation of needs.

This planning cycle would be on "rollover" basis. As a result, there would be relatively limited adjustments at any one point in the process over the years. The purpose of the exercise would be to accomodate, to the widest extent possible, the domestic and international satellite services needs of all Administrations through common-user systems. This would provide a pragmatic substitute for equitable treatment and guaranteed access in an a priori system. The critical difference would be the enhanced ability of the CUOs to (a) aggregate technical and economic resources in ways that service their members more effectively and (b) to conserve frequency and GSO resources.

The second step would be to submit these jointly coordinated CUO plans, with related registration requests, to the IFRB under the present Notifying Administration procedures or,

possibly, directly. These submissions would form the base for the IFRB's overall satellite frequency and GSO registration process. Provision would have to be made for the contingency that the CUO submissions do not cover (a) all individual Administration requirements and (b) CUO requirements which, when submitted to the IFRB, did not resolve all technical compatabilities between CUOs or between a CUO and an individual Administration.

This resolution process would take place in a third step through (in the words of the FCC industry advisory report) "an arbitral procedure to arrive at an internationally refereed decision." The details of these procedure will have to be carefully studied. On the one hand, it should include safeguards against any arbitrary restrictions on national satellite development. On the other hand, the procedures will have to be strong enough to satisfy LDC Administrations that, potentially, their right to practical guaranteed access to frequency and GSO resources (via the CUOs) will be protected against so-called "first come, first served" pre-emption by national systems. Developing an acceptable consensus between these two requirements will a difficult but critical part of the acceptability of any workable arbitration procedure.

RECOMMENDATION

There is a strong case for more active consideration of the role of CUOs in a revised ITU coordination procedure for space frequency and GSO resources. An enhanced CUO presence in these

procedures could be an important step towards narrowing the current gap between the perceptions of North and South groupings at the conference. If this approach is a viable one for the United States, the next step is to develop a set of specific proposals for inclusion in the overall U.S. Space WARC proposals. Under ITU rules, these are scheduled to be submitted by February 1985. At the same time, it will be important to consult with other Administrations to test the proposals, both in terms of content and the degree of support they can be expected to receive in the conference itself.