June 2021

Overview: The View From 22,300 Miles High

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"To ascend even the highest mountain, one must begin with a single step." -Ancient Chinese Proverb

Asia's geography, claiming many of the world's highest peaks, has provided a dramatic setting for a climbing expedition that began decades ago, when the satellite communications community took its first step on the lower slopes of the mountain.

The mountain, in this case, is the challenge of providing cost-effective access to communications throughout the entire Asia-Pacific region - a challenge that has at times seemed insurmountable.

As has been noted on many, many occasions, the region contains more than half of the world's population, a large number of developing countries, the tallest mountain ranges in the world, thousands of islands, and vast rural and remote areas.

In recent years, more satellites have been put into operation in Asia than in any other region of the world, each with footprints covering vast tracts of the region and offering rapidly deployable and cost-effective universal access to communications.

Furthermore, pricing of terminals has consistently dropped, even as typical data rate throughputs have increased and functionality has expanded to include everything from narrowband toll-quality voice for villages to broadband multimedia for corporate enterprises.

This much was made clear, appropriately enough, by the Asia Pacific Satellite Communications Council (APSCC), which effectively outlined the industry's stamina in the report "Social and Cultural Impacts of Satellite Communications and Applications for Rural and Remote Areas in the Digital Technological Times."

The Next Step Taken

In 2003, the Asia Pacific Satellite Communications Council established a study group with the aim of more accurately defining the nature of Asia's regulatory challenge and, more significantly, to plot a way forward.v

That analysis - drawing upon a survey of the regulatory conditions applied to satellite services in Asia, as well as other relevant information sources - has now been finalized and is embodied in the "Report of Study Group 1 on Policy and Regulatory Issues Relating to Satellite Communications."

vThe findings show that, in recent years, an increasing number of countries have adopted liberalised approaches in keeping with worldwide trends towards opening up of the telecommunication sector to competition.

On the other hand, the report reveals that in some countries, policy and regulatory mechanisms have either yet not been fully established or have not kept pace with rapid advances and new applications such as Internet via satellite, e-commerce, DTH, multimedia services, and much more.

The research found that access to satellite-based communications is "hindered in some cases due to separate licensing requirements for satellite service providers, space segment operators, end users and radio spectrum. There is a multiplicity of authorities and application forms involved. Licensing and renewal fees are high and approvals involve considerable delays.

"Considering that satellites will be used to meet vital social and economic objectives in remote, rural and backward areas and cater to essential services like business communications, disaster management, telemedicine, distance learning, Internet, e-commerce, TV, audio, news and data dissemination, policy makers should adopt a regulatory framework which would more effectively facilitate the use of satellite communication solutions."

It is all well and fine to suggest more effective facilitation of access to satellite services, but such a conclusion would not have gone far enough. So the report took the next step, examining policy and regulatory issues, presenting a study on liberalised regulatory frameworks successfully adopted by selected administrations throughout the world, and providing solution-oriented recommendations for application in the Asia-Pacific Region.

To put Asian satellite communications into context, the report outlined - step by step - the specific regulatory hurdles that stand in the way of cost-effective provision of satellite-based solutions. These included a detailed overview of the following areas of difficulty:

- Multiplicity of licences
- Lack of transparency
- Multiplicity of concerned authorities and application forms
- Licensing terms and conditions
- High licensing fees and renewal fees
- Licensing of satellite services
- Requirement for bilateral agreements

- Interconnection agreements
- Tariff approval
- Licensing of space segment
- Licensing of earth stations
- Type Approval
- Transborder use of terminals
- Licensing of radio spectrum
- Non-Existence of Regulations
- Security and Trade Issues

Next, the Study Group addressed the question: What are the policies and regulations that could be adopted with regard to:

- Licensing of satellite services
- Licensing of space segment
- Licensing and type approval of ground segment
- Licensing of radio spectrum
- Introduction of new satellite based services including the Internet, voice over IP, DTH and multimedia.

To answer those questions, a global regulatory survey was conducted of approaches that have been implemented and which have yielded positive results for the regulator, as well as for the service provider and, most importantly, the end user.

Examples of successful programs were highlighted that have a direct bearing on regulatory solutions. These run the gamut from global initiatives such as the World Trade Organization's market-access agreement and the International Telecommunication Union's GMPCS-MoU, to regional solutions implemented by Europe's Conference Europeene Posts et Telecommunications (CEPT), the America's Inter-American Telecommunications Commission (CITEL), and the Asia Pacific Economic Group (APEC).

Further, national-level treatment of satellite communications were addressed through the responses to a questionnaire sent out to each of the administrations of Asia.

In short, the survey demonstrated that, worldwide, the satellite industry has played an essential role in enhancing access to communications. Over the past two decades satellite communication applications have evolved from point-to-point long distance trunk telephony and TV distribution to business communications using VSATs, personal communications with handheld terminals and wideband multimedia communications, including Internet via satellite. The number of VSATs worldwide has been estimated to exceed 1 million units.

Such a pervasive use of two-way satellite communications could not have been possible without liberal policies and regulations that facilitate their usage in many

parts of the world. And this high level of deployment has arisen in spite of the fact that many parts of the world - not least in Asia-Pacific - already have excellent terrestrial communication infrastructure. The benefits that could be derived from satellite services could be far greater in the developing world where such terrestrial infrastructure is not yet available.

Achieving that objective is within Asia's reach - if the regulatory community will expand upon its co-ordination with the private sector to optimize its satellite policies and regulations - and harmonise those approaches.

Sighting the Summit

The timing of APSCC's report was excellent. As the final draft was presented in the Summer 2003, an ITU program was launched designed to facilitate improvement of satellite regulation in developing countries throughout the world. The initiative - called ITU Question 17/1: Satellite regulation in developing countries - was kicked off with a meeting on 1-2 August in Atlanta, Georgia, where ITU Member States and ITU-D Sector Members began developing a survey of the regulatory conditions applied to satellite service provision around the world.

Once the survey was conducted - and APSCC's findings were included among the first set of information documents for the program - the results were analyzed and a report prepared for presentation in Geneva in September 2003.

The ITU report, according to the Question's definition, is designed to "assist regulators by identifying regulatory approaches that have been successful in facilitating a competitive environment, thereby enabling appropriate satellite-based technologies suited to all stages of development."

Optimizing Asian Satellite Regulation

Though the Asia Pacific region is a major user of satellite broadcasting, VSATs and mobile satellite services, the APSCC's Report on Policy and Regulatory Issues Relating to Satellite Communication shows that there are so far no concrete efforts for harmonizing the use of spectrum and licensing policies and regulations in the region.

The report notes that the countries in the Asia Pacific region are very diverse: be it in the development of telecommunications infrastructure, in size and population density, in the level of overall development and their strategic perceptions. Hence, harmonizing the policies dealing with use of spectrum, licensing of services or satellites, requires "a lot more effort and a very dedicated approach to the entire issue."

The APSCC Study Group (1) recommended that the Asian regulatory community consider the following approaches:

- Licensing procedures

Transparency and easy accessibility to license procedures: Policy, regulations and implementation procedures should be transparent, non-discriminatory and unambiguous and should be well publicized. Applicable rules should be easily accessible through the website of the regulatory authority. Application form and the details of the contact person(s), their postal and e-mail addresses, phone and fax numbers should be available at the website.

One Stop Shopping: Service provider should have to approach only one entity for all the licensing purposes. A licensing data base should be made available at the website. The data base and software should facilitate single access to information and easy processing of license applications by an individual administration.

The process of licensing within the administration between various agencies should be streamlined so that the licensing procedures are simplified and quicker. Need for multiple licenses should be avoided. Steps need to be taken in the Asia Pacific Region so that licensing in one country could be accepted in other countries as is being done in other regions where "one stop shopping" has been adopted.

Reasonable Licensing Fees: The licensing fees should be reasonable as satellite communications services cater to the needs of rural, remote and backward areas which are not easily accessible by terrestrial media and are used for essential services such as distance learning tele-medicine and disaster management. Fee structure should be transparent and the information about the fees to be paid should be made publicly available.

Competition in Interconnection: Competition should be encouraged in the provision of interconnections. Bilateral arrangements and interconnection agreements with government telecom operator, if mandatory, should be non-discriminatory and cost-based.

Tariff Fixation: Tariffs should be fixed so that there is no delay for initiation of service on this account.

- Open Sky Policies

Regulators should consider "Open Sky Policies" for adoption so as to allow competition for leasing the space segment subject to international intersystem coordination and also its perception of strategic interests. The access to space segment should not have unnecessary frequency band restrictions. Service

providers should be allowed to directly access any satellite on competitive terms and conditions.

- Blanket Licensing of Earth Terminals

Licensing of earth terminals should be limited to those cases where regulatory review is required to prevent unreasonable interference. For certain class of earth terminals for e.g., VSAT terminals and mobile terminals operating in exclusive or primary bands and complying to national and international standards, no individual license should be insisted upon. Blanket or class licenses for earth terminals could be granted avoiding the need for individual licenses to the extent possible.

- Mutual Recognition Arrangements

Mutual recognition arrangements should be adopted at sub-regional, regional or international level to accept the terminals approved in other countries.

- Frequency Band Segmentation

In order to reduce frequency coordination problems between satellite and terrestrial systems frequencies, band segmentation may be adopted. This should be feasible in Ku- and Ka-band where more bandwidth is available. Harmonisation of spectrum allocation at a regional level, particularly amongst neighbouring countries should be considered.

- Flexibility in Regulations

Policy and regulations should take into consideration the need for introduction of new services such as Internet, multimedia communications and DTH. The regulations should have adequate flexibility to allow introduction of new services without delay.

- Security and Trade Safeguards

National Sovereignty: Policy and regulations, while preserving national sovereignty, should encourage growth and should not stifle competition.

Prevention of Unauthorized Traffic: Safeguards have to be established to prevent unauthorized traffic to and from the country without undue restrictions on service operations. The service providers and operators cooperation is required in this respect.

Security: Security stipulations while meeting the legitimate concerns of the administrations should not over-burden the operators and service providers with

excessive cost implications, rendering the service unaffordable and hence not viable.

Protection of Industry: These regulatory provisions should be formulated in such a way as not to restrict options to introduce new services, reduce competition and cause delays in provision of services.

Harmonisation of Licensing in the Region: The APSCC should take the initiative for harmonization of licensing policy and regulations and MRA in the Asia-Pacific Region.

Need for Continuing Study: Policy and regulatory issues involve complex economic, commercial and political issues. The Asia-Pacific region contains a large number of countries with a wide economic, political and social disparities. The APSCC therefore should continue the study of the subject for evolving a consensus for solutions like one stop shopping, MRA, harmonisation of licensing and liberalization of policy and regulations.