THE NATIONAL TELECOMMUNICATION POLICY (1994 - 2020)

PREFACE

1. This document outlines the objectives, strategies and features of the National Telecommunications Policy (NTP) for the 1994 - 2020 period. This policy was formulated to ensure that the growth of telecommunications services and its use of technology support national development, in line with national aspirations.

2. The telecommunications sector is expanding rapidly with the introduction of the latest services and equipment. This development has become a catalyst for the growth of the nation's commercial and industrial sectors. The integration of the telecommunications and computer industries also resulted in the rapid growth of sophisticated technology which ushers in a new Information Technology-based century. In addition, the telecommunications sector as an industry in its own right has gone through rapid growth too, and contributed much to the nation's economic development. The formulation of the NTP is important because it provides guidelines for the development of the telecommunications sector in Malaysia as it faces future challenges and supports the attainment of the objectives of Vision 2020.

BACKGROUND

3. The telephone and telegraphic services were specifically introduced after the First World War to help run the government's administrative system. Later it expanded its role to the business and industrial sectors and later for public use. Starting from a simple network, this sector has developed to become a sophisticated telecommunications network, using optical fiber cable, microwave and satellite systems to link rural and urban areas throughout the nation and with the whole world.

4. The growth rate in the use of telecommunications facilities has increased tremendously, especially in the increasing number of telephone subscribers. At the end of the Second Malaysian Plan (1970 - 1975), there were 169,600 subscribers. This figure increased to 1.58 million subscribers at the end of the Fifth Malaysian Plan (1986 -1990). The number of telephones for every 100 persons increased from 6.5 in 1985 to 12 in 1993.

5. Besides the growing number of customers who make use of telecommunications facilities, other services also experienced rapid growth such as the mobile telecommunication radio, trunk radio and paging system as well as data services which include switching services, datel, telefax and other services. The introduction of he latest value-added and downstream telecommunication services spur further growth in the nation's manufacturing and economic service sector.

6. Development of the public telecommunications network is not only confined to the urban areas. Efforts to expand public telecommunications network to the rural areas are actively carried out. The total number of rural telephones in 1990 was 190,000 and this is expected to increase to 351,000 in 1995, a 11.5% growth. The rural telephone line penetration rate is expected to increase from 1.8

telephones for every 100 persons in 1990 to 3.1 telephones for every 100 persons in 1995.

7. The expansion and development of telecommunications services are important for the growth of the industrial and service sectors. To modernise and to increase telecommunications service growth rate, a competitive element was introduced in stages. The first step involved the incorporation of Telekom Malaysia in 1987 as a government-owned company. Later, new companies were licensed to provide certain services such as mobile cellular telephones, pagers, trunked radio, two-way radio system and other value-added services.

8. The Energy, Telecommunications and Posts Ministry is responsible for the formulation of policies and the planning of future long-term course of the telecommunications sector, while the Malaysian Telecommunications Department (JTM) is responsible for the supervision of the telecommunications sector. The JTM also encourages competition and ensures an orderly and efficient development or the telecommunications industry. These are in addition to the work done in licensing and enforcement.

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9. The NTP will function as a catalyst towards the growth and development of the telecommunications sector in its efforts to become a modern,sophisticated and dynamic sector.

10.The NTP will formulate general outlines for the development of the telecommunications sector not only at national but also at international levels. This will serve as guidelines to all parties involved including providers, investors and the Government particularly with regards to the requirements of investment, human resource development, network and service facilities, absorption of new technology and research and development.

11. At the national level, the NTP will coordinate the emergence of a competitive atmosphere in an orderly manner to ensure the optimum use of the country resources. For the domestic service, the NTP will outline the creation of quality, high technology, cost effective and sophisticated telecommunications services at par with that found in developed countries.

12. In the international arena. the NTP will ensure that Malaysia is regarded as a competitive telecommunications service supplier and a premier market leader known throughout the Asia Pacific region and the world.

THE MISSION AND OBJECTIVES OF THE NATIONAL TELECOMMUNICATIONS POLICY

13. Mission Statement

The NTP will be the main catalyst towards the creation of an information-rich and intelligent nation.

14. The objectives of the NTP are divided into macro and micro objectives.

14.1 Macro Objective

The macro objectives supports the National Development Policy is aims of national unity. and integration by encouraging interaction between the races and regions through telecommunication facilities and services. In addition, the NTP also helps to realize the objectives of Vision 2020 in creating an educated and information-rich society through the application of modern and sophisticated telecommunications network. The dissemination and expansion of information technology will produce a society capable of contributing towards the development of new technology to enhance the country's economic and industrial growth. Besides information technology, the application of all types of telecommunications technology in all sectors of the nation's economy will be enhanced.

14.2 Micro Objective

The micro objectives are for the:

14.2.1 Provision of modern, sophisticated and quality communications services at a reasonable cost.

14.2.2 Ensuring that telephone services are expanded to the rural and urban population at a reasonable cost.

14.2.3 Ensuring that the telecommunications infrastructure is adequate and effective in supporting the country's industrialisation efforts.

14.2.4 Encouraging the growth of value-added services.

14.2.5 Ensuring that human resource development is in tandem with the needs of the telecommunications sector.

14.2.6 Ensuring that local manufacturing industries for the manufacturing of telecommunications equipment continue to expand and grow.

14.2.7 Ensuring the use of local products by the telecommunications sector.

14.2.8 Encouraging research and development (R & D) to facilitate the absorption of new technology and to upgrade telecommunications facilities and services.

14.2.9 Promoting better ties between nations towards making Malaysia an international telecommunications hub.

14.2.10 Encouraging the healthy participation of telecommunications companies in the international market and investment in other countries in the fields of telecommunications.

14.2.11 Ensuring that radio telecommunications spectrum resource management is administered in an effective and fair manner.

14.2.12 Encouraging the active participation of bumiputera entrepreneurs in the development of all sectors of telecommunications, in line with the government's policy to create a Bumiputera Business and Industrial society.

STRATEGIES

15. The close relationship and cooperation between the Government and private sector are critical to the development of the telecommunications sector and the realisation of the objectives of the National Development Policy. Therefore, the NTP's strategies are based on the Government-Private sector synergy, working together to create a modern, sophisticated, efficient and productive telecommunications sector in making available services to every segment of society at a reasonable cost. The following strategies are identified to help attain the objectives of the NTP.

15.1 Expansion of Services in a Systematic and Comprehensive Manner

15.1.1 The target of the telephone lines penetration rate for the nation by the year 2020 is fixed at 50 telephones for every 100 persons. The rate is fixed at 25 telephones for every 100 persons for the rural areas. This target is to be achieved through an increase in basic facilities, an expansion of existing telecommunications network and provision for new ones.

15.1.2 The Government will license certain companies if necessary to supply certain infrastructure and services in accordance with the long term plans of the telecommunications sector. An integrated and reliable transmission network that covers the whole nation and capable of providing voice, video, data and imaging services will be expanded .

15.1.3 The Government will revise the rates and tariffs for all telecommunications services from time to time so that the cost of the services is reasonable and at par with those charged by neighbouring countries and the international market.

15.1.4 In the long term, the telecommunications network will expand to include fibre optic, microwave network and satellite systems. In addition,competition in the supply of telecommunications network infra-structure will be encouraged in an expanding market that attracts a growing number of users.

15.1.5 The realisation of social objectives in particular to increase and upgrade rural telecommunications facilities will not be neglected, and indeed all licensed telecommunications companies especially the carrier-network provider are responsible to achieve this end.

15.2 Development of a Strategic and Export-Oriented Manufacturing Industry

15.2.1 To strengthen the nation's economic growth and spur technological transfer, local

manufacturing and assembly of telecommunications equipment are encouraged. Besides ensuring that technological transfer is continuous and to provide more employment opportunities, the local telecommunications industry is expected to gear itself for the export market in a large scale.

15.2.2 To develop the local industry, the use of locally produced equipment is encouraged through licensing regulations for all providers in the telecommunications sector. In addition to that, fiscal incentives are also provided to encourage the growth of the local telecommunications industry.

15.3 Encouraging Competitiveness

15.3.1 The NTP's main approach is to encourage a healthy and orderly competition. The telecommunications sector has been opened to competition where basic infrastructure and telecommunications services are operated by private enterprises. The main objective of the telecommunications sector is to encourage competition in the telecommunications sector in order to achieve efficiency and to provide excellent and quality service. This is in addition to the provision of services that will satisfy all users and people, in line with the National Privatization Policy.

o Encouraging competitiveness in the telecommunications sector will be carried out in stages. It will start with value-added services followed by the provision of infrastructure and other services.

o Competition in this sector will take into account the existence of similiar facilities that are not profitable and problems resulting from different technologies.

o However, competition will not only be encouraged between systems (technology) but also among providers using the same system.

o This element of competitiveness is encouraged at the domestic and international levels by taking into account the nation's commitment in international agreements such as GATT and others.

o Domestically competition in the te1ecommunications sector is implemented by taking into account the development of a new system/infrastructure that emerges from time to time in keeping with the rise in demand.

o Even though on the Whole the NTP encourages competition it does not necessarily mean creating separate systems.

o Even though competition is encouraged the Government is empowered to determine the number of competitors that are economically viable for certain telecommunications system/services. The NTP will provide a healthy environment and equal opportunities to all competitors.

15.4 Research and Development To Enhance The Application of Technology

15.4.1 Those involved in telecommunication are encouraged to carry out research and development (R & D) to support local industrial growth and to speed u transfer of technology. The requirement to carry out R & D will be part of the conditions under which licences will be issued. It is stated that at

least 1% of the annual expenditure should be allocated for R&D purposes. Incentives for R&D activities will also be provided. R&D in certain telecommunications fields should be initiated. Among the important fields identified are information technology and the development of information technology which possesses tremendous potential for expansion through telecommunications systems. R&D should also be made in the fields of cellular technology satellite fibre optics microwave and others.

15.4.2 To enhance the capacity to face the challenges of Vision: 2020 the NTP proposes the setting up of a national research and development institute in he field of telecommunications.

15.5 Development of a Dynamic and Innovative Human Resource

15.5.1 The development of human resource in the telecommunications sector is an important factor in ensuring its success. or this purpose the creation of trained and skilled human resource in all fields of telecommunications must be stressed.

15.5.2 All telecommunications enterprises are encouraged to establish their own human resource training programme. At present the main telecommunications sector provider has its own training programme/plan as well as a human resource development institute. As other companies appear, the training of human resource in this sector must be coordinated. Efforts must be made to set up a national human resource development institute. This institute need not necessarily be run by the Government; indeed it could be operated by the private sector and managed commercially. Overlapping of functions among the providers must be avoided.

15.5.3 The need to create short, middle and long term plans for the training of human resource is imperative.

15.6 Upgrading Rural Telecommunication Facilities

The NTP will continue to emphasise efforts to upgrade rural telecommunications facilities. The main aim of the NTP with regard to the rural sector is to provide telecommunications facilities to every household by 2020. Besides the main provider, which now is required to supply telecommunications services to the rural areas, all telecommunication providers are expected to contribute towards this end.

15.7 Encouraging Active Bumiputera Participation

The NTP will continue to encourage bumiputera concerns to enter the telecommunications fields that are closely associated with the need to prepare an infrastructure for an information-rich society. The NTP supports the aspirations of bumiputera entrepreneurs to participate actively in the telecommunications sector, particularly through their involvement in the following fields:

(i) telecommunications services
(ii) manufacturing
(iii) research and development

(iv) human resource development and consultancy services

15.8 International Strategic Interaction

15.8.1 Basic facilities to link Malaysia with the rest of the world are needed to make the country the regional and international telecommunications hub. At present, Malaysian telecommunications links with the world are made through submarine cable systems with ASEAN and Asia-Pacific nations. The installation of submarine cables linking her with other countries is being laid. This will continue to be upgraded to expand Malaysia's international network and ease traffic access to North America, Europe, the Middle East and Asia-Oceania.

15.8.2 Malaysia can also be linked with other countries through satellites. Continued reliance on other countries' satellites will create future problems in terms of security and balance of payments. In light of this, the country needs to have her own satellite.

15.8.3 The provision of basic facilities such as submarine cables and satellites will project Malaysia as a regional and international telecommunications hub besides upgrading telecommunications services in the country.

15.8.4 To project Malaysia's image as a progressive telecommunications centre, the private sector and the Government should step up their participation in international and regional fora. This is important in order to ensure that the nation's interests are continually taken care of. In addition, Malaysia will continue to participate actively in activities organised by international telecommunications agencies.

GUIDELINES FOR THE DEVELOPMENT OF TELECOMMUNICATIONS SERVICES

16.In addition to the strategies to encourage the growth and development of the telecommunications industries outlined earlier, the NTP also proposes a few guidelines for the development of telecommunications services. The NTP proposes that the structure of the national telecommunications sector be revised to ensure a more effective development. The new structure will be as follows:

16.1 Future Telecommunications Sector's Structure

The structure of the telecommunications sector in the future will be divided into network infrastructure and te1ecommunication services.

16.1.1 Network Infrastructure

This is further divided into basic network infrastructure and value added network infrastructure.

(i) Basic Network Infrastructure

This covers user-provider network and services for personal or public services.

(ii) Value Added Network

The value added network infrastructure provides infrastructure facilities through supplies from basic network providers. Generally, the basic network infrastructure provider also supplies and operates basic and value added telecommunications services.

16.1.2 Telecommunications Services

Telecommunications services are divided into basic and value added telecommunication services.

(i) Basic Telecommunication services

These are services provided by the basic infrastructure facilities such as PTSN (Public Switched Telephone Network) public telecommunications network, PDSN (Public Data Switched Network),telex and trunked telecommunications network or transport network.

(ii) Value Added Telecommunications Services

These telecommunications services are based or dependent on the infrastructure facilities mentioned earlier for the provision of basic services or other services without building its own infrastructure network. Infrastructure facilities covers hardware as well as software. An orderly competition is needed to provide and manage basic facilities.

16.1.3 Corporate Telecommunications Network Infrastructure

This is specially built for internal use, such as the exclusive telecommunications service for institutes, companies, government agencies and the security agencies that are not categorised under the types of providers mentioned earlier. These networks are not allowed to offer the telecommunications services commercially to the public.

16.1.4 IT Superhighway Network Infrastructure

The NTP emphasises how important it is for the nation to build a sophisticated IT infrastructure to face the challenges of information technology in the 21st century. Towards this aim, the NTP calls for the building of an IT network infrastructure throughout the nation by supplying fibre optic channels, microwave and satellite network systems in order to create a strong, permanent and reliable IT superhighway. The NTP will encourage the use of the superhighway network by all users for various information services such as data communications, video-conferencing, voice information, fax and other services.

17. To help attain the restructuring of the telecommunications sector mentioned earlier, the NTP proposes the following guidelines:

17.1 Basic Telephony Services

17.1.1 These are provided by the Basic Telecommunications Service Providers who also provide PTSN public telecommunications network infrastructure facilities, besides basic infrastructure for the use of other providers. Generally, the basic telecommunications network infrastructure contains the switching system component, local line network (cable and radio communications) and transmission system at national and international levels.

17.1.2 Competition in the supply of telecommunications services can be introduced separately in three stages, i.e. basic telephony services at local, international and national network (trunked). Competition is introduced to the trunk dialling service through fibre optic networks, satellite and microwave systems. Competition for international service is introduced too and will soon cover local areas. Certain aspects are taken into account when considering the introduction of competition for the provision of basic telephony services. These include telephone line penetration rate, the growth rate of telecommunications services in rural and urban areas, reasonable service charge and infrastructure wastage. Therefore competition is introduce in an orderly and selective manner. Competition can encourage use whereby it brings about a lowering of service charge besides enhancing the quality of service. At the same time,competition helps the nation's economic growth.

17.1.3 Studies of the Gross National Product (GNP) growth rate show that the telephone line penetration rate will increase from 12 telephone lines for every 100 persons in 1993 to 30 lines for every 100 persons in 2005. This means that the NTP's aim of providing 50 telephones lines for every 100 persons by 2020 is within reach and introducing competition is the best method to achieve this objective.

17.1.4 A study of consumer needs has shown that the demand for telephony services in terms of basic line capacity will increase from 64 kbps to 150 Mbps.This target will be achieved when the nation's export of value added products increases and there is a demand for EDI services and that the intelligent network has been built.

17.1.5 Basic telephony services will continue to be modernised through the introduction of digital services and network to meet the increasing demand. The process of digitalising its existing analogue network will continue to be encouraged. The restructuring will change the network's basic standard, including the numbering scheme, and the installation rocedures from hierarchy to mesh. Wiring procedures will change from normal cable to fibre optics.As a consequence, the need for different types of competent personnel will change from time to time.

17.2 Supplementary Services

17.2.1 These are services that come together with basic lecommunications services. These services include payphone, telefax, leased circuit, toll free number, voice information, home country direct, datel, tie line, faxplus, bureau fax and other services.

17.2.2 Licences are required for payphone and voice information services. Other supplementary

services are allowed on condition that they use approved equipment.

17.2.3 The payphone service is a form of social service for the convenience of the people. They can make calls using coins, prepaid cards or credit cards. At present, there are two payphone service operators in the rural and urban areas. Competition is encouraged for the provision of this service and the NTP urges the implementation of uniform prepaid cards.

17.2.4 The voice information service is the latest service with tremendous potential where the latest information on various subjects, is relayed to users who dial special numbers given. This service is open to competition.

17.3 Data and Information Facility Services

17.3.1 These services meet the need for the relaying of information which results from the integration of computers and telecommunications technology. The types of services under this category include MAYPAC, MAYCIS, DIGITALINE and ISDN services. Each service has its own technical features and the choice of service is dependent on the bit rate to be transmitted,the cost of the service, and the standard of the equipment used.

17.3.2 Competition in the setting up of data service in the form of Value Added Network Services-VANS is encouraged for both national and international services. VANS is important to meet the needs of the national EDI where all business transactions are done electronically. Local VANS companies are encouraged to establish joint ventures with the main VANS provider at the international level so the service can be operated economically.

17.3.3 ISDN is the latest service that encompasses data, image and voice. It can interact with other data and voice services. It also provides various subscribers facilities such as caller-number and conferencing facilities.

17.4 Messaging and Text Transmission Services

17.4.1 These services transmit information in the forms of messages and texts and cover Telemail, Telex and Telegram services. The use of these services has decreased owing to the emergence of more sophisticated services, but they will still be maintained.

17.5 Radio Communications Service

17.5.1 This is a rapidly growing service due to the sophisticated technological development in the semiconductor and digital processing fields. The availability of frequency band and radio path, which has been limited until recently, has been solved and higher frequency bands have already been used.

17.5.2 To ensure the continual rapid growth of the telecommunications services, monitoring through computerised frequency management system will still be carried out. To make the service more complete, rearrangement of the frequency bands used is done from time to time to provide access to other services if needed.

17.5.3 Radio communications service covers various types of services, such as mobile radiophone, CT2, satellite, maritime, amateur radio, high frequency radio, leased channel and others.

17.5.4 The mobile radiophone service is the most popular radio communications service among users. This service includes cellular telephones, trunk radio, pager and CT2 services. All of these services require licences and competition is encouraged. However, the use of overlapping frequency bands must be avoided through proper coordination at national and international levels. Even though competition is encouraged, the entry of new companies must be based on detailed technical study and the resultant real rearrangement of frequency bands on a case-by-case basis.

17.5.5 The trunked radio service provides mobile radiophone service to radio users who share a common frequency to operate local or area-wide service. For the purpose of improving the quality of service and the coverage area, technical suitability studies need to be done from time to time.

17.5.6 The paging service is a one-way radio service that relays messages to the subscribers through voice and/or alpha-numeric forms at local, national and international levels. As there have been many licences issued for this service, a study must be carried out to maximise the use of radio frequency. One of the approaches proposed is to merge local companies to provide the nationwide service.

17.5.7 The cordless telephone service is a wireless telephone service used by mobile users but their movements are limited to an area of only 100 metres. At the moment, it is only limited to making calls. The plan to integrate paging services in CT2 equipment will increase the capacity of this service. Competition is encouraged and the participation of bumiputera equity, as well as the use of local equipment, are stressed. This service should also be enhanced by using new technology, such as the CT'3 and the Personal Handy Phone (PHP).

17.5.8 The satellite technology service has tremendous potential and should be encouraged, especially since the nation requires sophisticated telecommunications services that could help her achieve Vision 2020 of turning Malaysia into an industrialised nation. Malaysia needs her own satellite network to support the development of her telecommunications sector. The NTP encourages the maximum use of the country's satellite. Existing satellite services include the Intelsat Business Service (IBS), VSAT and TVRO. The TVRO service enables the country to make use of international satellite services to obtain the latest in news, sports and entertainment. The NTP aims to use TVRO as part of the telecommunications infrastructure for the dissemination of information to the people. Telecommunications services in this country has tremendous potential of rapid expansion as we head towards the 21st century.

17.6 New Services

New international services, such as IRIDIUM Project 21, INMARSAT, PCN/PCS video-conferencing and telecommuting require proper planning with regard to the scope of competition, the needs of users and the technicalities involved. The NTP will encourage the introduction of these new services through an equitable issuance of licences.

THE MAIN ISSUES OF SUPERVISION

18 Supervision

The Government will continue to be responsible for the supervision of the telecommunications service sector to ensure that the interests of consumers and providers are protected and balanced. The Government will continue to ensure that the interests of the nation are given priority over other interests. The main issues which continually attract attention are licensing, spectrum management, interconnection, tariffs, standards and quality of service.

18.1 An Orderly Licensing System

The NTP will encourage a telecommunications network/service infrastructure licensing system that is orderly, efficient and effective. The issuing of licences will be carried out through a bidding or an open tender system to respondents who are qualified according to the criteria of the Licensing Board.

18.2 An Efficient and Equitable Spectrum Resource Management

Spectrum resource will continue to be managed in an orderly and equitable manner and will be used as the basis for the creation of a complete radio communications network system. The NTP will resolve the problem of overlapping frequency at shared borders. It will ensure an equitable allocation of frequency bands among neighbouring countries. Further to this, the NTP will ensure that a national frequency centre is established.

18.3 Tariff Design

The NTP will emphasise the formulation of a tariff structure which takes into account the interests of various parties. It has to benefit consumers and ensure reasonable returns to the providers based on the principle of equitability and guided by market factors. It should also be subjected to changes in the Consumer Price Index (CPI). The tariff between one provider and another should be based on the principle of fair play. It should take into account the interests of all parties, i.e., the rate of return to providers, as well as quality of service for users.

18.4 Network and Service Standard System

The NTP will emphasise an orderly and comprehensive network and service standard system. The standard system is geared towards the streamlining and synchronisation of the designs and types of national telecommunications network and systems. The streamlining of standards will, cover aspects of the numbering plan, access, interconnection, wiring, the safety of users' equipment and billing integrity.

18.5 Numbering and Accessibility Plan

The NTP will encourage the setting up of a comprehensive and integrated numbering plan among

the networks. The important aspect of the numbering system is the access code number which will be decided in an equitable manner.

18.6 Telephone Directory

The NTP encourages all providers of telecommunications services to produce their own telephone directories for the convenience of the public. The NTP encourages the publication and production of this directory in all formats, including electronic printing by the providers themselves, or by any other company with interest in disseminating information.

19. Consultative Forum

In its efforts to set up an efficient, effective and competitive telecommunications service, the Government will initiate consultative fora whereby all parties with interests in the telecommunications sector, i.e., the providers, users, government agencies and individuals, can have open discussion to develop and enhance the nation's telecommunications services.

CONCLUSION

20.The NTP presents macro and micro outlines of the direction the national telecommunications industry is heading towards as a catalyst to the nation's continued rapid development. A comprehensive explanation is given of the philosophy, objectives and strategies of the NTP to enable all parties with interests in the industry, including users and the general public, to understand and to concentrate all their efforts towards achieving the objectives of the NTP. The private sector's role, particularly in an open market where it is subjected to competition, is important and critical. Efficiency and effectiveness are two important criteria, and they form the basis for the NTP in its aim of achieving the vision of a developed, united, caring and civilised Malaysian nation.

Source : Ministry of Energy, Telecommunication and Multimedia