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Regulatory Affairs Advisory Committee (RAAC)
Next Generation Network Working Group (NGNWG)

Universal Service Obligation in the Era of Next Generation Network

Purpose

This paper presents the pertinent issues of universal service obligation (USO) in a next generation network (NGN) environment and provides an overview on the current policies and practices of other economies in dealing with the issues. The USO is among the seven topics identified in the NGNWG Paper No. 1/2009 [1] calling for discussion in detail.

Introduction

2. In accordance with section 35B of the Telecommunications Ordinance (the Ordinance), the Telecommunications Authority (the Authority) may require a fixed carrier licensee to have a USO to ensure that "*a good, efficient and continuous basic service is, in the Authority's opinion, reasonably available to all persons within the areas of Hong Kong covered by that obligation*". The term 'basic service' is defined in section 2 of the Ordinance and it covers mainly voice telephony service and public payphones supported by the public switched telephone network (PSTN). At present, PCCW-HKT Telephone Limited and Hong Kong Telecommunications (HKT) Limited (collectively referred to as "HKT") is the only universal service provider (USP) which is imposed with the USO to supply the basic service to any customer at any location at service charge capped by the published tariff of HKT, irrespective of whether or not service provision to that customer[2] is economic.

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[1] NGNWG Paper No. 1/2009 is available at http://www.ofta.gov.hk/en/ad-comm/raac/ngnwg/ngnwg2009p1.pdf.

[2] Individual fixed telephone lines are aggregated on a per distribution point basis for assessment of whether the service provision at the distribution point level is uneconomic and in which case universal service contribution (USC) will be calculated.

3. HKT is compensated under the universal service contribution (USC) scheme set up by the Authority pursuant to section 35B for the net cost it may incur in meeting the USO. When the USC scheme was initially established in the 1990's, USC was shared by all facility-based and service-based providers of external telecommunications service (ETS) on the basis of ETS traffic minutes they carried. From 1 May 2009, the providers of local fixed and mobile telecommunications services including both facility-based and service-based operators using local telephone numbers are required to share the USC on the basis of the number of all telephone numbers allocated to them.

4. Traditionally, telecommunications services and networks are built around circuit-switching technologies. The service and the underlying network are vertically integrated such that a single network only supports a single service. In contrast, NGN is capable of delivering converged, multiple and high-bandwidth services over a single, unified network. With the development in NGN technology and phasing out of the traditional circuit-switching equipment, operators in Hong Kong including HKT are converting their existing PSTN to NGN for delivering voice telephony, data and video services.

USO in an NGN environment

5. The move to NGN raises a number of regulatory issues concerning USO. First, voice telephony service will become more economical given that voice is only one of many applications provided on NGN and the cost of providing voice service can be shared with other services provided on the same platform. A broadband subscriber may have access to voice telephony service through Voice over Internet Protocol (VoIP) technology which is, for instance, bundled with the subscription of the broadband line. The extra charge incurred with such bundling is typically less than the price of a standalone PSTN telephone line. With the provision of voice telephony service becoming more cost effective and affordable and adjunct to broadband service, this may imply that USO for voice telephony service no longer needs to be mandated in

the NGN era.

6. Second, NGN will enable end users to enjoy a wide range of telecommunications services, such as data service, multimedia service, broadband service, unified messaging, and the like over a single platform. With the increasing popularity of non-voice services in particular the broadband service to end users, there may be a need to rethink the scope of universal service other than the basic voice telephony service under the USO.

7. Third, there may be quality issues associated with IP-based NGN. These include jitter on the line, delay, power outage, virus attack, and so on. This raises the question on whether a minimum quality of service (QoS) requirement should be imposed on the USP if it deploys an IP-based NGN for the provision of basic telephone service.

8. Fourth, as NGN can support a wide variety of telecommunications services, there is a need to establish a proper basis and methodology for allocation of costs to different telecommunications products and services so that the services which fall within the scope of the USC may be accurately identified. This is especially important for a fair and updated USC scheme that requires the industry players to contribute to the provision of USO by the USP.

Current Development in Other Economies

9. As NGN deployment is gaining momentum, it is expected that the regulators in other economies will face similar issues as in Hong Kong. In this regard, OFTA conducted a survey of the current policies and practices of other regulators that may be relevant to our consideration on how to deal with the impact of the development of NGN on USO.

10. In May 2010, OFTA sent the following questions by emails to the national regulatory authorities (NRAs) in other economies. The NRAs in Australia, Canada, Japan, New Zealand, Singapore, Sweden, Taiwan, the UK and the USA have responded to the survey.

Information available in the public domain has also been made reference to in compiling the results of the survey.

Question 1: What is the current scope of universal service (e.g. fixed telephone service, mobile telephone service, public payphone service, emergency service etc.) in your economy?

Question 2: What is the latest development in universal service and NGN in your economy?

Question 3: With the migration of legacy PSTN equipment to IP-based NGN, is there any plan in your economy that the universal service should be abandoned or substantially changed due to, e.g., more economical bundling of voice service with broadband service? If yes, please provide the details.

Question 4: Conversely, given the trend towards IP-based NGN which can support many telecommunications services (e.g. voice telephony service, data service, multimedia service, broadband service, unified messaging, etc.), will the scope of universal service in your economy be expanded? In particular, will broadband be part of the universal service?

Question 5: Given that there may be quality issues associated with the IP-based NGN that are not present for the PSTN calls, including 'Internet problems' of jitter, delay, power outage, virus attack, etc., do you impose minimum QoS requirement on using IP-based NGN for provision of universal service?

Question 6: Given that IP-based NGN can support a wide variety of telecommunications services which may be beyond the scope of universal service, how do you determine or allocate the network and access costs relevant to the universal service?

Scope of Universal Service

11. With regard to Question 1, the scope of USO in other economies is mainly confined to the provision of voice telephony services. Some economies like New Zealand and the UK have included basic Internet access by dial-up connection at speed up to 14.4 kbps and 28.8 kbps respectively in their scope of USO. On the other hand, Taiwan has included broadband Internet at a minimum speed of 256 kbps in the USO. Other economies like Singapore and Sweden have intended to include broadband Internet at speed from 1 Mbps to 1 Gbps in the USO. Table 1 provides a summary on the current scope of USO in each economy under study.

Economies	**Major Scope of Universal Service**
Australia	Fixed line telephone service, public payphone service, digital data service with a 64 kbps data capability
Canada	Fixed line telephone service, access to long distance network, dial-up Internet access
Japan	Fixed line telephone service, public payphone service
New Zealand	Fixed line telephone service, dial-up Internet access with a 14.4 kbps data capability
Singapore	Fixed line telephone service, public payphone service, international service
Sweden	Fixed line telephone service, public payphone service, basic Internet access
Taiwan	Fixed line telephone service, public payphone service, broadband Internet with a minimum speed of 256 kbps
UK	Fixed line telephone service, public payphone service, dial-up Internet service with a 28.8 kbps data capability
USA	Voice service only

Table 1: Universal Service in Various Economies

Latest Development in Universal Service and NGN

12. For most economies, their replies to Question 2 on the latest development of universal service and NGN are related to national broadband plan. Some economies plan to subsume the broadband initiatives into the USO regulatory regime while others plan to develop their national broadband plans separately outside the existing USO scheme.

13. Australia, Japan, New Zealand, Singapore, USA and UK have announced national broadband network rollout plan within the next decade. Information they provided to us in the survey about the development of the broadband infrastructure in their economies was basically the same as that given in the RAAC Paper No. 4/2010[3] issued in August 2010. Among these six economies, only Singapore's Info-communications Development Authority (IDA) sets out in its Next Generation Nationwide Broadband Network (NGNBN) that the two companies awarded with the Singapore Government contract to construct the NGNBN infrastructure, namely Network Companies (NetCo) and Operating Companies (OpCo), would have the USO to meet all reasonable requests for services at residential or non-residential premises from 2013. For the other economies, there is either no plan for covering the broadband service under the existing USO framework, or setting up a separate fund outside the existing USO arrangement for the broadband service.

14. The three other economies covered in the survey, namely Canada, Sweden and Taiwan, have not decided or made concrete proposal for national broadband network. Some latest developments on their USO framework are summarised below:

- The Canadian Radio-television and Telecommunications Commission of Canada has called for comments about the idea of subsidizing the high-speed internet access under the USC framework. It is now at the consultation stage and

[3] RAAC Paper No. 4/2010 is available at http://www.ofta.gov.hk/en/ad-comm/raac/paper/raac04_2010.pdf.

there is no finalized plan yet.

- The Sweden Government has recently announced that there are reasons to increase the level of basic Internet access to 1 Mbps, but there is up-to-date no official timeframe for such an increase.

- The current scope of USO in Taiwan includes discounted internet access for local schools and public libraries. The universal service regulations were amended in 2006 to include broadband services, and have been implemented since 2007. There is no plan for further change at this moment.

Impact of NGN on USO

15. With regard to Questions 3 and 4 about the impact of NGN on the scope of universal service, apart from some economies like Taiwan, Singapore and Sweden which expand the existing scope of USO to cover broadband services, all other surveyed economies have no plan to abandon or substantially change the existing universal service arrangement for basic telecommunications service at this moment. However, it should be noted that for those economies having a national broadband plan, regardless of whether they plan to subsume the building of the network to the USO scheme or not, the key drivers come from the economical benefits that could be enjoyed through an advanced nationwide access network. For example, Singapore aims at reinforcing the status of Singapore as an info-communications hub and open new doors to economic opportunities, business growth and social vibrancy by the NGNBN. The UK Government's goal is that Britain has the best super fast broadband network in Europe by the end of the parliament (2015). For some sparsely populated economy like New Zealand, the rural broadband plan aims to facilitate the development of rural areas and contribute to the overall economic growth.

16. Regarding Question 5, as most NRAs are still in the consultation process or early implementation stage of their national broadband plans, only a few economies have identified and addressed the quality standard issue. In Singapore, in relation to the Interconnection Offer submitted by OpCo and approved by the regulator (i.e. IDA), there are several levels of Class of Services specified in respect to the jitter rate, latency and packet loss. For example, the Classes of Service for the Layer 3 VPN connection are 1ms, 8ms and 0.1% in terms of jitter, latency and packet loss respectively for Class A 'Real Time' service. There are also Class B 'Near Real Time', Class C 'Mission Critical' and Class D 'Best Effort' services that require different levels of Class of Service. In New Zealand, in a document inviting Expressions of Interest related to the Rural Broadband Initiatives for submission to the New Zealand Government, it is specified that the Layer 2 Ethernet connectivity must be capable of participating in an IP environment supporting multiple simultaneous classes of traffic that may each have different QoS requirements. In the USA, the Federal Communications Commission (FCC) specified in an Appendix to a Notice of Inquiry and Notice of Proposed Rulemaking on the National Broadband Plan the technical issues to be addressed including the quality issues. Other economies have not specified clearly the quality issues of NGN and the universal service.

17. On Question 6 regarding cost allocation methodology, there is no recognised bases and assumptions used to distribute the relevant costs to universal service since NGN technology is relatively new to the economies concerned.

18. More details on the existing USO framework and the latest development for various economies are given at **Annex**.

The Hong Kong Perspective

19. As seen from the above survey, the current developments on USO are mainly related to the building of next generation broadband access networks to provide high speed connection to the Internet and

other bandwidth demanding applications, but not on the migration of traditional circuit-based PSTN switching equipment to new packet-based NGN equipment. The focus in the economies being surveyed is on the delivery of universal broadband services rather than maintenance of universal narrowband telephony services. If the scope of USO is still confined to voice telephony service, it appears that PSTN to NGN migration is only a change of technology to support the same service and should not have a material impact on the regulatory regime.

20. HKT, the existing USP, has previously communicated to OFTA that it is planning to complete migration of its PSTN to NGN platform by 2015/2016. Furthermore, HKT has indicated that its NGN platform will be solely used for supporting voice telephony service. As such, NGN migration will imply only a change of technology to support the existing basic service defined under the Ordinance. Under the existing technology-neutral USO regulatory regime, the same regulatory principles will apply irrespective of whether PSTN or NGN is used.

21. Notwithstanding what paragraph 5 has indicated, whether the overall cost of supporting voice telephony service in the NGN era will be lower than the PSTN era is yet to be ascertained. Even if the cost of providing basic voice service in the NGN era is lower in general, we must still bear in mind that there are still some remote or rural areas in Hong Kong where it is uneconomic to provide service and thus the persons living in those areas may not be able to enjoy basic voice telephony service if the provision is based on commercial incentive alone. Furthermore, in view of the low penetration of VoIP service for wireline telephone connection[4], we need to monitor the market development before we may confidently treat voice telephony service as an adjunct component to broadband service. There is thus a need to maintain USO for basic voice telephony service.

22. On the issue of expanding the scope of USO to cover broadband services, the Authority has concluded in his statement entitled “Review of the Regulatory Framework for Universal Service Arrangements” on 8

[4] According to the latest figures, among the 4.2 million fixed telephone subscribers in Hong Kong, only 0.52 million subscribers or 12.3% of the total are served by VoIP technology.

June 2007 (the 2007 USC Statement) that the universal service arrangement will be maintained. Besides, the scope of universal service should not be extended to cover broadband Internet access service because (i) the competition in the provision of broadband services was keen; (ii) broadband wireless access technologies would become more mature in the future which would make it cost effective to provide such services in remote areas; and (iii) there were already mechanisms for Government to fund broadband connections including provision of broadband services in schools and public libraries and provision of Wi-Fi coverage on Government premises.

23. More than three years after the issue of the 2007 USC Statement, it is observed that the household broadband penetration rate has increased from 74.4% in June 2007 to 82.3% in April 2010. The Government has also recently launched the household-based cash subsidy scheme for Internet access charges in order to support the students from low-income families on access to Internet learning opportunities at home[5]. Given that the market is effective and the Government has undertaken new incentives to boost the demand side, the Authority considers that there is no imminent need to change the view that he has reached in the 2007 USC Statement.

24. The QoS issues are related to the access to and interconnection of various services provided over NGN platform. A brief discussion of the subject is given in the NGNWG Paper No. 3/2009 on "Interconnection Regime and Quality of Services"[6].

25. On the costing issues, it is concluded in the 2007 USC Statement that NGN cost for the basic service should be disallowed unless it can be demonstrated that any part of the PSTN is not capable of continuing the provision of basic service and its functions for providing the basic service has been taken over by the NGN, in which case only the proportion of the NGN costs incurred for the provision of the basic service should be

[5] According to the scheme, needy families with children who are full-time students receiving education at primary and secondary levels will be provided with the subsidy for Internet access charges in the 2010/11 school year, for a maximum amount of full rate at HK$1,300.

[6] NGNWG Paper No. 3/2009 is available at http://www.ofta.gov.hk/en/ad-comm/raac/ngnwg/ngnwg2009p3.pdf.

allowed in the USC calculation.

Way Forward

26. Given that the existing scope of universal service covers only voice telephony service and that the PSTN to NGN conversion process only implies a change of technology for supporting that service, we do not identify the need for any immediate material change to the existing USO regulatory regime.

27. The broadband initiatives in other economies are still in a state of flux. It is expected that following the completion of national broadband plan in these economies, we will have a clearer picture of the general development trend of USO framework worldwide. OFTA will monitor closely the development in these economies before considering whether any change to the universal service arrangement in Hong Kong is required.

Advice Sought

28. Members of the NGNWG are invited to express their views and comments on this paper.

Office of the Telecommunications Authority
September 2010

Annex

Overseas Regulatory Framework and Latest Development for USO

Australia

Existing USO Framework

- USO in Australia includes standard telephone service (STS) and payphone service. A special obligation related to USO is digital data service obligation (DDSO) and the special DDSO (SDDSO).

- USPs and digital data service providers (DDSPs) are subsidised for providing these services. Telstra is currently the sole USP and DDSP.

- STS is defined as:
  - A telephone service fit for the purpose of voice telephony, or
  - A form of communication that is equivalent to voice telephony if voice telephony is impractical for a person with a disability.

- At 30 June 2006, Australia had just fewer than 58,000 payphones. Telstra owns and operates just over 30,000 payphones and is responsible for the supply, installation and maintenance of these payphones. The remaining 28,000 payphones are operated by private businesses, generally using Telstra payphone access lines.

- The DDSO is the obligation placed on a digital data service provider to ensure that digital data services of 64kbps (on demand basis) are accessible to all people in Australia on an equitable basis, wherever they reside or carry on business. The SDDSO applies to customers unable to receive service under the general DDSO because they are not close enough to the necessary network infrastructure.

- More information on the USO of Australia is available at: http://www.acma.gov.au/WEB/STANDARD/pc=PC_2413#.

Latest Development

- There is no change nor plan yet from the Australian Communications and Media Authority to substantially change the USO in Australia.

- The Australia Government announced in April 2009 plans for a national broadband network to make Australia one of the world's most wired countries. National Broadband Network Co. was set up on 9 August 2009 to achieve this target. More details are available in the RAAC Paper No. 4/2010.

Canada

Existing USO Framework

- Universal service is referred to by the Canadian Radio-television and Telecommunications Commission (CRTC) as the obligation to serve including the basic service objective, and local service subsidy.

- The basic service objective for local exchange carriers include:

  - Individual line local service with touch-tone dialing, provided by a digital switch with capability to connect via low speed data transmission to the Internet at local rates;
  - Enhanced calling features, including access to emergency services, Voice Message Relay service, and privacy protection features;
  - Access to operator and directory assistance services;
  - Access to the long distance network; and
  - A copy of a current local telephone directory.

- Local service subsidy is established to maintain basic local residential service in rural and remote areas (i.e. high-cost areas) at an affordable rate where the cost of providing service exceeds that rate. Revenues collected from telecommunications service providers (TSPs) are used to fund the local service subsidy regime.

- Starting from 2000, the CRTC has introduced a national revenue-based contribution collection mechanism and a new methodology for calculating the subsidy for high-cost serving areas in the territories of the large incumbent local exchange carriers (ILECs) and Télébec, Limited Partnership.

- In its Decision 2001-238 in 2001, the CRTC established the costing rules to be used for determining the subsidy per residential network access service (NAS) amounts for the territories of the large ILECs. The subsidy per residential NAS amounts for HCSAs is approved annually by the CRTC.

- More information on the basic service objective is available at http://www.crtc.gc.ca/eng/archive/1999/DT99-16.HTM and http://www.crtc.gc.ca/eng/archive/2009/2009-702.htm.

Latest Development

- In the proceeding to review access to basic telecommunications services and other matters, Telecom Notice of Consultation CRTC 2010-43, the CRTC called for comments about the USC including :

- "whether the basic service objective is still necessary and, if so, what should it comprise?"

- Examples quoted in the notice include wireless service, broadband service with 1Mbps speed, etc.

- There is also one question called for discussion:

  "What should be the [CRTC]'s role, if any, in regard to advancing high-speed Internet access? Given that the contribution regime is generally limited to subsidizing basic local service rates in high-cost areas, should the [CRTC] reconsider its approach and use the regime to subsidize high-speed Internet access?"

- The first hearing will be held in Timmins, Ontario on 25 October 2010.

- More information is available at:
  http://www.crtc.gc.ca/eng/archive/2010/2010-43.htm

Japan

Existing USO Framework

- Universal service in Japan is stated in the Telecommunications Business Law Article 7 and includes:

  - subscriber telephony services (line access, local calls, isolated islands calls);
  - public telephony services (equivalent scope to subscriber telephony services); and
  - emergency call services (police, fire department, and coastguard).

- NTT holdings and NTT East/West were designated USPs.

- The compensation amount is calculated as the difference between the basic cost of the top 4.9% of access lines by cost, minus the average cost nationwide. (The basic cost is calculated based on the total element long-run incremental cost method[7] in order to eliminate the inefficiency of NTT East/West.)

- More information is available at: http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/presentation/pdf/071030_2.pdf.

Latest Development

- Ministry of Internal Affairs and Communications submitted an inquiry on 27 July 2010 to the Information and Communications Council of Japan concerning the status of the basic telecommunications service (universal service) system in the transitional period until broadband services reach all parts of Japan.

[7] The total element long-run incremental cost method is a method for calculating carrier network costs based not on the actual current costs but on the estimated cost of a network built using today's cheapest and most efficient equipment and technology and carrying the same number of subscribers and the same amount of traffic.

- During the transition before broadband services reach all parts of Japan, subscriber telephone services and optical IP telephone services whose prices are not much more expensive than the subscriber telephone services will be put together into one category of universal services (to avoid overlapping investment and to permit removal of metal cables in the service area of optical IP telephone services).

- More details on the broadband infrastructure development in Japan are available in the RAAC Paper No. 4/2010.

New Zealand

Existing USO Framework

- The Telecommunications Service Obligations (TSO) regulatory framework established by the Telecommunications Act 2001 is the regulatory mechanism which enables services to be made available to supplement the range of services that are commercially available.

- The Local Service TSO reinforced the principle laid out in the previous Kiwi Share Obligation and covered local residential telephone service and dial-up Internet service (at 9.6kbps & 14.4kbps data capability) in New Zealand.

Latest Development

- The Government of New Zealand is currently reviewing the Local Service TSO for local residential telephone services. The TSO review is being undertaken as part of the Government's regulatory review program.

- After the public consultation of the TSO review, the Ministry of Economic Development released on 16 March 2010 that:

  - It is not proposed that broadband service be included in Local Service TSO requirements. The New Zealand Government's policy for funding the rural broadband initiative is to allocate some subsidy funding from revenue collected by the new consolidated industry levy.

  - there is an introduction of a Telecommunications Development Levy (TDL) expected to raise over the next six years :

    - NZ$48 million for payments for delivery of TSO services and upgrades to the emergency calling services system;

- NZ$252 million for the Rural Broadband Initiative.

- The cost to the industry of this TDL is expected to be offset by the reduction in Local Service TSO charges resulting from the TSO reforms.

- Due to the introduction of the TDL, the USF of Local Service TSO charges levied on existing universal service contributors will be reduced. Yet the universal service will not be abandoned or substantially changed.

- More details on the broadband infrastructure development in New Zealand are available in the RAAC Paper No. 4/2010.

Singapore

Existing USO Framework

- The USO framework in Singapore is encapsulated in the Basic Obligations of Public Telecommunication Licensees. It includes the provision of basic telephone service (including access to emergency services), provision of international service and public payphone service. In contrast with USO regimes elsewhere, IDA does not fund the provision of universal service. This is because island wide coverage is not deemed to be financially and/or technically unfeasible due to Singapore's size and population density. Separately, mobile operators have an obligation to provide at least 95% coverage on street levels and in road and train tunnels, and 85% in publicly accessible buildings.

Latest Development

- IDA is currently reviewing the scope and nature of the USO framework in light of technological and market developments and the rollout of the horizontally-tiered Next Generation Nationwide Broadband Network (NGNBN).

- With the introduction of the NGNBN, both the NetCo and OpCo have a USO to meet all reasonable requests for services at any residential or non-residential premises from 2013. The detailed requirements are outlined in their interconnection offers.

- More details on the broadband infrastructure development in Singapore are available in the RAAC Paper No. 4/2010.

Sweden

Existing USO Framework

- The scope of the universal services provided for in Sweden is in line with the scope of universal services under the European Union (EU) Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive). This Directive is currently under review at EU-level.

- More precisely universal services in Sweden include:

  - Access to public telecommunication networks
  - Access to public telecommunication services (phone, fax and basic Internet access)
  - Creation of a subscriber's directory
  - Access to a customer information service (i.e. provide info about subscribers)
  - Public pay phones
  - Provide access for people with disability to services according to the same extent and on equivalent terms as for other end-users and satisfy the needs of people with disability for such special services

Latest Development

- The Sweden Government recently announced that there are reasons to increase the level of basic Internet access to 1 Mbps. There is to date however no official timeframe for such an increase.

Taiwan

Existing USO Framework

- The current scope of universal service in Taiwan includes voice-based telecommunications universal service and data transmission telecommunications service.

  - Voice-based telecommunication universal service includes uneconomic public payphones and telephone service in uneconomic areas (fixed telephone service).
  - Telecommunications universal service on data transmission includes telecommunications universal service on data transmission in uneconomic areas and discounted internet access for local schools and public libraries.

- By the end of 2009, universal service had been provided to 81 townships, considered as remote areas, in 17 counties.

Latest Development

- There is no plan in Taiwan to substantially change the USO framework. The universal service regulations were amended in 2006 to include broadband services, and have been implemented since 2007.

United Kingdom

Existing USO Framework

- The scope of Universal Service in the UK is set by the UK Government through the Universal Service Order.

- Ofcom implements the Universal Service Order through applying specific Universal Service Conditions on companies designated as being universal service providers. In brief, the arrangements cover the following requirements:

  - Facilitate calls to the emergency services;
  - Uniform pricing – services within the scope of USO must be charged at the same price throughout the UK;
  - Meet reasonable requests for connection – USPs must provide a connection upon request unless the costs of doing so would be excessive;
  - Facilitate functional internet access – a line must be capable of supporting a dial up modem (based on a benchmark connection figure of 28.8 kbps);
  - Provide a social tariff that departs from normal commercial conditions;
  - Reasonable access to public payphones – USPs face restrictions on the removal of loss making payphones where local communities demonstrate local need;
  - Provide directory information & a directory enquiries service – the information should be updated every year and a service should be available to those using public payphones;
  - Allow consumers to monitor and control expenditure – e.g. itemized billing, and;
  - Ensure equivalent access for those with a disability – special measures must be taken e.g. the provision of a text relay service.

- The full text of the Universal Service Order is available at: http://www.opsi.gov.uk/si/si2003/20031904.htm.

Latest Development

- The most recent review of the universal service obligation was performed in 2005/6. Details are provided at: http://www.ofcom.org.uk/consult/condocs/uso/.

- The UK Government had also been pursuing a policy which would see an extension of 2 Mbps broadband coverage introduced through a "Universal Service Commitment." This was an arrangement proposed to be set up outside the existing, narrowband USO, and would be separate from broader Universal Service Obligations.

- More details on the broadband infrastructure development in the UK are available in the RAAC Paper No. 4/2010.

United States of America

Existing USO Framework

- The goals of Universal Service, as mandated by the 1996 Act, are to:
  - Promote the availability of quality services at just, reasonable and affordable rates for all consumers
  - Increase nationwide access to advanced telecommunications services
  - Advance the availability of such services to all consumers, including those in low income, rural, insular, and high cost areas at rates that are reasonably comparable to those charged in urban areas
  - Increase access to telecommunications and advanced services in schools, libraries and rural health care facilities
  - Provide equitable and non-discriminatory contributions from all providers of telecommunications services to the fund supporting universal service programs

- Universal Service Obligation is on voice service only.

Latest Development

- On 16 March 2010, the Federal Communications Commission (FCC) released a Joint Statement on Broadband. On the same day, the FCC delivered to Congress a National Broadband Plan recommending that the FCC adopt cost-cutting measures for support of existing voice services and create a Connect America Fund, without increasing the overall size of the universal service fund, to support the provision of broadband communications in areas that would be unserved without such support or that depend on universal service support for the maintenance of existing broadband service.

- More details on the broadband infrastructure development in the USA are available in the RAAC Paper No. 4/2010.