

DRAFT

Guidelines for Service Providers on Telecom Services for Persons with Special Needs

Preamble:

In order to build a civil society where information based services will provide the basis for continuing enhancement to quality of work and life, it is important to ensure an equitable provision of affordable services to all including the people with special needs. A considerable portion of the Omani population has different types of impairments, some restrict their vision, hearing or mobility and in some cases they could also reduce their ability to use even basic telecommunication facilities. However, continuous development and improvement in the technologies expanded the options to address the issues related to the people with special needs.

The Government, in the course of achieving the economic and social objectives of the telecommunication sector, as enshrined in Article (38-3) of the Telecom Act, is required ***“To provide telecommunications services to persons with special needs”***.

It may also be pertinent to mention that as per the Royal Decree (121/2008) issued on 5th of November 2008, the Government of the Sultanate of Oman has endorsed the *“International Convention on the Rights of person with Disabilities”*. The Article (9) of the convention is related to ***“Accessibility”***, where the states parties shall take the appropriate measures to promote access for persons with disabilities to new information and communications technologies and systems, including the internet.

Considering the above, the TRA has developed guidelines to set out the minimum required services to be provided by the telecom service providers in the Sultanate in order to minimize any access barriers to telecommunication services for people with special needs. The provisions of these Guidelines have been designed to be practical and achievable without placing undue financial burden on the service providers. By implementing these Guidelines, in coordination with the telecom service providers, the TRA is aiming at

facilitating accessibility of telecom services to the persons with special needs, including the disabled and elderly persons. These Guidelines are set out below:

A. Definitions

Accessibility: is a measure of the extent to which a product or service can be used by a person with a disability as effectively as it can be used by a person without that disability.

Assistive technology: Piece of equipment, product system, hardware, software or service that is used to enable, maintain or improve functional capabilities of individuals with disabilities.

Disability: Any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being. Mainly, "disability" is viewed as a result of temporary or permanent functional limitation due to disease, accident, ageing and so on.

Elderly People: due to normal aging process, a person who is at least 60 years old and has reduced functional capability in normal interaction with a telecom device.

Handicap: A disadvantage for a given individual, resulting from an impairment or disability that limits or prevents the fulfillment of a task/activity.

Impairment: Any loss or abnormality of psychological, physiological or anatomical structure or function.

Instant Messaging Relay: is a text-based solution on mobile phones for individuals who are hard-of-hearing, or have speech loss

Interactive telecommunications services: Services designed to enable the two way exchange of information between multiple users in multiple locations via telecommunications equipment such as exchanges and network servers. (Examples: voice telephony, facsimile, video phone, e-mail and instant messaging services.)

Person with Special needs: Any person whether an elderly or/and having one or more of the kind of disabilities as listed in Article 2 of these Guidelines, holding Disabled Identification Card issued from Ministry of Social Development proving his disabled status.

Relay service: is a human operated service for media and mode translation during phone conversations.

Text Relay service: is a traditional relay service that translate between text-to-speech or speech-to-text, usually for people with speech impairments, hearing difficulties, total hearing impairments or hearing and visual impairment.

Telecommunications equipment: Any machine, device, line or other form of equipment used to perform telecommunications operations or use a telecom service.

Telecommunications services: Services provided to users via the use of telecommunications equipment.

Telecommunications platform services: Services designed to support telecommunications equipment and user management, user authentication, content management, charging and payment procedures by operators engaged in the provision of information services via telecommunications equipment.

Telecommunications accessibility: For the telecommunications area, the usability of a product, service, environment or facility by the widest possible range of users and especially users with disabilities.

User: End-users of telecommunications products and services are people, groups of people and organizations that use or consume telecommunications products and services. They consist of individuals of different age groups, gender, levels of income, geographic environment or commercial activities. End-users, whether they are organizations or individuals, have varied telecommunication requirements and needs.

Video Relay service: is used to enable sign language communication between a hearing or speech impaired person using a sign language interpreter and videophone/webcam and anyone who owns a regular phone.

B. Disability in Telecommunications

The disabilities with reference to the telecommunication sector shall be categorized as per the following:

1. **Hearing Impairment (moderate):** A moderate loss of hearing function causes problems in many acoustic environments. Hearing aids may be used in many situations but often will not be used when telephoning because the signal level from the phone is sufficient, particularly when amplification is available. However, there may be difficulties in hearing the phone ring at any distance from it.
2. **Hearing Impairment (severe):** A severe functional hearing loss will require full-time hearing aid use. Additional receive amplification may be helpful when Telephoning but the major problem is to obtain optimal coupling to a personal hearing aid. Inductive coupling is often the preferred method but some smaller hearing aids are incapable of supporting this connection. A person with severe hearing impairment may be able to hear over the telephone, but may have severe difficulties in understanding what is being said.
3. **Deafness:** No useful hearing (in the context of telephone usage) necessitates the use of visual modalities, e.g. text Telephony. Fax and Email are not satisfactory alternatives as they do not allow for real-time conversations. By making use of relay facilities, text-phone connections can be made with any voice subscriber.
4. **Visual Impairment (moderate):** Visual impairment makes it difficult to read displays and markings, especially in low light conditions. Liquid crystal displays can be very difficult to read and visual prompts such as on payphones may be unreadable.
5. **Visual Impairment (severe):** Severe visual impairments give problems in performing any visual task. Even locating the telephone may be a difficult matter. Persons with severe visual impairments often need to get very close to the item they are trying to see. Large character high contrast displays that avoid glare help considerably. Macular degeneration can result in loss of central vision.
6. **Blindness:** Blind people are not able to use their vision for dialing on a telephone, and rely upon tactile and audible signals. For those who do read Braille, tactile displays will be useful, but a synthetic speech display mode would have a wider utility.

7. **Speech Impairment (moderate):** Speech difficulties will hinder use of the telephone network in speech mode. People with very weak voices will require 'send' amplification. Stammering problems may be influenced by the speaker's own voice being heard through the telephone earpiece (side-tone).
8. **Speech Impairment (severe):** People with significant problems with voice communication may opt for text-based communication. In many cases the problem may be linked with deafness, and the text-phone will be the chosen facility. Others may have synthetic speech communicators, and will need to interface these with their Telephone terminals.
9. **Limited Dexterity:** Physical problems can make holding a handset difficult and make keypad operation slow and inaccurate. These tasks may also be painful. Careful ergonomic design is essential if the telephone is to be of practical use.
10. **Limited Use of Hands/Arms:** Persons with limited use of their hands or arms may not be able to hold or lift a handset, or operate a keypad unless it is placed in contact with the hand. They will require some form of hands-free operation, with the handset on a stand or replaced by a headset or a loud-speaking telephone. A customized keypad or speech-input keying may be necessary.
11. **Weak Grip:** Problems in using keypads are common for users with weak grip, and they cannot hold most types of handset for any useful period of time. Appropriate ergonomic configuration of the handset and keypad is critical. Either speech-input keying or provision for a plug-in keypad with touch sensitive keys (having adjustable time delay and unambiguous feedback) may be necessary.
12. **Hand Tremor:** Difficulty in making precise finger movements will necessitate enlarged keypads with rests, key-guards or delayed activation. Selection of key operating pressure may be critical to the avoidance of muscular spasm. Both audible and displayed key feedback will be necessary to confirm correct actuation and avoidance of unwanted repeats. Speech-input keying may be desirable, but some conditions giving rise to hand tremor also cause hesitancy in speech.
13. **Cognitive Impairment:** Cognitive impairments are varied, but may be categorized as memory, perception, problem-solving and conceptualizing disabilities. Dyslexia can cause significant problems in remembering even short sequences of numbers in the correct order. People with an intellectual

impairment can often function well when they are familiar with the terminal and system, but can be easily confused when required to respond quickly.

14. **Restricted Mobility (lower limb):** Those who rely on wheelchairs, walking frames or walking sticks to get about do not generally require special features on telephones, although cordless or mobile phones can be very useful. Positioning of the telephone and the means of access to it may be critical.

C. The minimum set of services to be provided for the persons with special needs.

The Service Providers shall be required to ensure provision of the following services with technical specifications and commercial terms & conditions suitable for the people with special needs:

- 1) Voice Service, Short Messaging Service (SMS), Multi-Media Services (MMS);
- 2) Special Telephone directory Service, to be available in Braille, electronic version or any other appropriate means for people with vision impairments;
- 3) Emergency directory and service, whether through a specialized service from the call centers or SMS, particularly for those with hearing impairments. The service provider may provide a service that allow deaf or hearing impaired individuals to text or send video emergency notification to the emergency number hotline, this service should be capable of receiving and sending real time video and/or text message so as to respond to people who need help;
- 4) Special packages and tariff schemes for the persons with disabilities, taking into consideration their affordability and income level; including but not limited to:
 - a. Tariff Schemes for the people with special needs
 - b. Tailor made plans for the deaf may be offered, so they pay only for messaging and not for voice calls as the practice in a regular plan. In addition to such “text only” plans, the operators may also offer “text and data” plans without voice as in other bundled options.

This allows deaf users to enjoy special payment plans for mobile data services;

- 5) Telecommunication billing services to be made available in Braille or suitable electronic format (e.g.Word) which allows the capability of text to speech;
- 6) Special service at the operators' outlets for persons with special needs, by providing priority to them. Additionally, for persons with hearing-impairments, where possible, to have a trained staff member with the basic skills in one of the main outlets, who is able to communicate with them in Sign Language;
- 7) Where ever commercially viable, ensuring that auto-payment machines are Accessible, particularly for those with vision-impairment, by providing an accompanying audio feature to the payment services;
- 8) Special service with regards to payment and disconnection. As the majority of the special needs category are considered to be in the low income category, there should be a flexible system or instalment schemes to assist them with their payments instead of immediate disconnection, especially as in most cases where their dependency on telecom services is essential for basic communication;
- 9) Special service for Disability Associations with regards to the provision of technical maintenance assistance, when required on the fixed line and internet services for the Disability Associations (blind, handicapped, children with special needs, etc.);
- 10)The service provider shall have an accessible website; web-accessibility enables persons with disability such as people with visual and hearing impairments to make use of the web. This could be achieved through technical standard and tools in developing the web pages, so they can navigate, understand and interact with the web. Screen reader for the people with vision impairments and text caption for people with hearing impairments.
- 11) The service provider shall provide ramps for wheel chair to access the service provider's outlets.

12) The service provider shall provide relay services to enable the deaf or hearing impaired and speech impaired users to communicate over telecommunication networks, including IP based network. Examples of such services include Text-Relay, Instant Messaging Relay, Video-Relay and total conversation services.

Annex:

1. Examples of handset manufacturers and operating system organizations engaged in providing solutions to persons with disabilities:
 - ❖ <http://www.mobileaccessibility.info/index.cfm?lang=ar>
 - ❖ www.nokiaaccessibility.com
 - ❖ www.blackberry.com/accessibility
 - ❖ www.apple.com/accessibility
 - ❖ <http://www.samsung.com/us/consumer/learningresources/mobile/accessibility>
 - ❖ <https://market.android.com/details?id=info.spielproject.spiel>
 - ❖ www.medialog.ws
 - ❖ www.doro.com
 - ❖ www.codefactory.es
2. Examples of Service Providers Engaged in Serving Persons with Disabilities:
 - ❖ Egypt- Etisalat
 - ❖ Japan – NTT DoCoMo
 - ❖ Europe–SFR, Orange
 - ❖ United States- AT&T