

ITU REGIONAL WORKSHOP ON ICT ACCESSIBILITY FOR PERSONS WITH DISABILITIES FOR AFRICA REGION

**ITU Regional Workshop on ICT Accessibility for Persons
with Disabilities for the Africa Region**

Lusaka (Zambia), 15 and 16 July 2008



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Accessibility Standardization in ITU-T

**Andrea Saks
Convener, ITU-T JCA on Accessibility and Human Factors**



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ITU-T accessibility tools

- **[Question 26 of SG16](#) “Accessibility to Multimedia Systems and Services”**
pioneered in the 1990s with Rec. V.18 on a multi-function text telephone
- **[Question 3 of SG2](#) “Human Factors issues on international telecommunication services”**
aims at increasing usage and therefore revenues derived from international telecommunications services by improving ease of use and usability
- **Joint Coordination Activity on Accessibility and Human Factors ([JCA-AHF](#))**
coordinates related standardization activities and act as a single point of contact within ITU on accessibility matters

www.itu.int/itu-t/jca/ahf ↔ tsbjcaahf@itu.int

Recent Standardization Achievements

- **Telecommunication Accessibility Checklist for standards writers (11/2006)**

Early use of checklist in standards process ensures usability by users including those with disabilities

- **F.790 “Telecommunications accessibility guidelines for older persons and persons with disabilities” (01/2007)**

F.790 provides general guidelines for standardizing, planning, developing, designing and distributing all forms of telecommunications equipment, software and associated services, to enhance their accessibility for users including those with disabilities

Current ITU-T Standardization topics:



Video telephony



Text telephony



Voice telephony

Total Conversation (F.703):

A central concept in accessible communication, joins real-time text, video and voice communication in one mainstream telecom service useful for all. Type, sign, show, talk - all in the same call



Defined by ITU-T SG 16. Interoperability is a main driving force (gateway support). Accessible replacement of Voice Telephony.

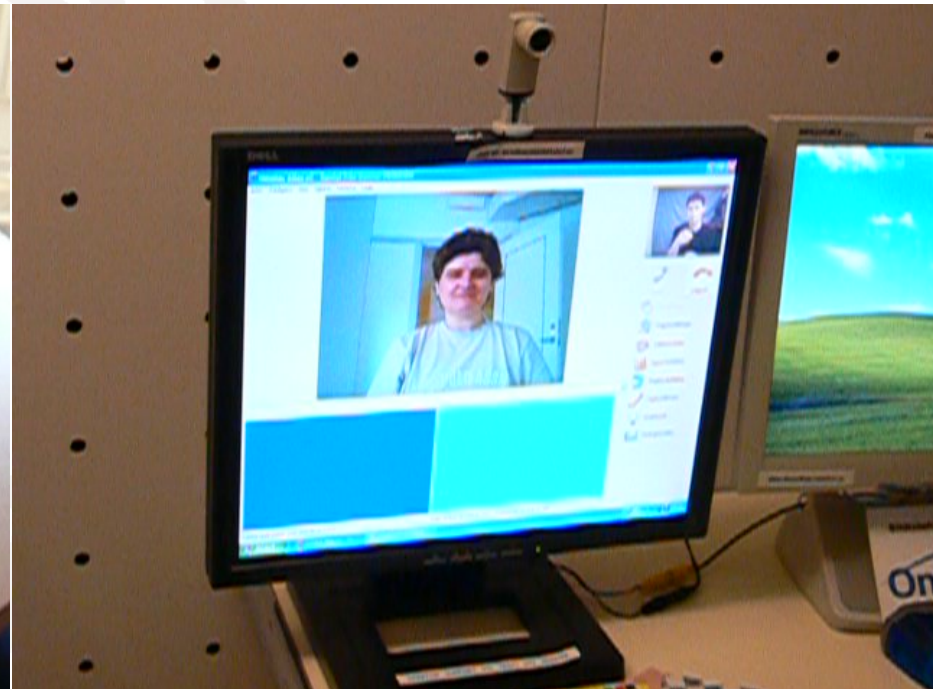
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Current ITU-T Standardization topics: Interoperability and Mobility

Mobile Networks become an important issue for accessibility.
Example of implementation of Total Conversation in mobile network
for signing users, text users.



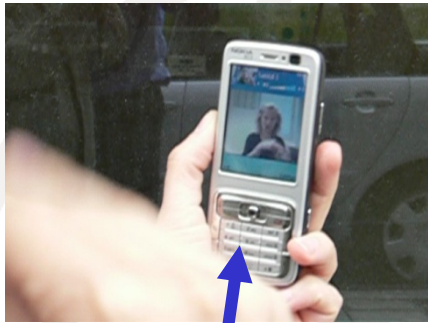
HSDPA connected
High-Speed Downlink Packet Access (HSDPA)



Fixed connection

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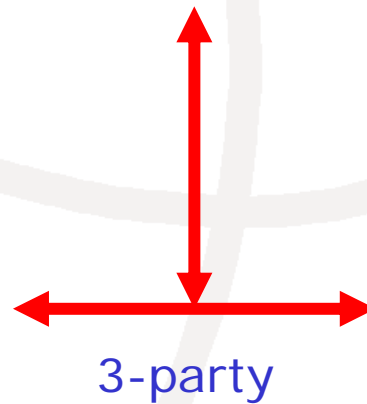
Current ITU-T Standardization topics: Video Relay services



Video relay service
translating
sign language < > voice



Signing user



Talking voice (incl. PSAP)

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Current ITU-T Standardization topics: Multimedia – Accessibility

Relay services translating between different modes of communication: Video, Text, and Audio

An important component in providing equal opportunities.

- Sign relay
- Sign – and text relay
- Text relay
- Captioned text relay
- Speech–to–speech relay

Emergency services supported by relay services if needed

- Convenient calling mechanisms for invoking these services need to be standardised in mainstream call procedures.

Accessibility in IPTV

Where accessibility needs impact technological development

- Audio description
- Subtitles
- Captions
- Supplementary video
- Spoken subtitles
- Subtitles to recording
- Audio feedback of remote control
- Size and colour on subtitles and background



Other ITU Accessibility Achievements

ITU-T Recommendations

- [V.18](#) - harmonization of text telephony
- [V.151](#) - text relay end-to-end connection of analogue PSTN text telephones over IP
- [T.140](#) - the general presentation protocol for text conversation
- [T.134](#) - text conversation in the T.120 data conferencing environment
- [H.323](#) - Annex G for text conversation in H.323 packet multimedia environment
- [H.248.2](#) - gateway procedures between Text Telephony in PSTN and real-time text in IP [H Series Sup.1](#) - Video communication requirements for sign language and lip reading
- [E.121](#) - Pictograms, symbols and icons to assist users of the telephone service
- [F.910](#) - Procedures for designing and selecting symbols, pictograms and icons
- [E.135](#) - Human factors aspects of public telecommunication terminals for persons with disabilities
- [E.136](#) - Specification of a tactile identifier for use with telecommunication cards
- [E.138](#) - Human factors aspects of public telephones to improve their usability for older people

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ITU Accessibility work in the Internet Governance Forum (IGF)

Dynamic Coalition on Accessibility and Disability

Aim

The Dynamic Coalition on Accessibility and Disability, will facilitate interaction between relevant bodies, and ensure that ICT accessibility is included in the key debates around Internet Governance in order to build a future where all sectors of the global community have equal access to the Information Society.

Current Members

Partners: Organizations and Institutions

- [ITU](#) – International Telecommunication Union
- [ACMA](#) – Australian Communications and Media Authority
- [DAISY Consortium](#) – Digital Accessible Information System Consortium
- [G3ict](#) – The Global Initiative for Inclusive ICTs
- [ICDRI](#) – International Center for Disability Resources on the Internet
- [ISOC-AR](#) – Argentina Chapter of Internet Society
- [NCC](#) – Nigerian Communications Commission
- [People Who](#)
- [UNESCO](#) - United Nations Educational, Scientific and Cultural Organization
- [Council of Europe](#)
- [WAI](#) - W3C Web Accessibility Initiative

Individuals:

- Clara-Luz Alvarez (Rapporteur [Q20](#), [ITU-D Study Group 1](#))
- Frank Mulcahy (Information Officer for [Disabled People's International](#), Europe)

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DCAD Work in progress

■ 3rd IGF Meeting

Hyderabad, India, 3-6 December 2008

■ The DCAD to organize a workshop:

“Including Accessibility and Human Factors in the Universalization of the Internet - How to reach persons with disabilities, the 10% of the next billion”

- will highlight the necessity to make the Internet accessible to all, regardless of individual capabilities of different users.
- Will respond to the requirements expressed in line with the **WSIS Tunis Agenda** related to reducing illiteracy and providing access and accessible content for marginalized and vulnerable groups of society, including older persons and persons with disabilities

Current ITU-T Standardization topics: Accessibility

Summary

- Interoperability, the most essential accessibility requirement behind communications for all
- We have to have standards to ensure accessibility
- Design for all from the beginning, Inclusive design
- For the creation of Standards, use the Accessibility checklist and Accessibility guidelines
- It is easier to get standards created than implemented
- Encouragement from society to implement the accessibility features that exist in current standards is urgently needed

ITU-T Contacts

JCA-AHF contacts

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Resources

- ITU-T technical flyers:
→ <http://itu.int/ITU-T/lighthouse/tflyers.html>
- SG16 webpage:
→ <http://itu.int/ITU-T/studygroups/com16>
- JCA AHF: Joint Coordination Activity on Accessibility and Human Factors → <http://itu.int/ITU-T/jca/ahf>
- ITU-T Workshops: → <http://itu.int/ITU-T/worksem>
 - Joint ITU and G3ict forum – Geneva, 21 Apr 2008
 - Tutorial on Accessibility – Geneva, 22 Apr 2008
- ITU Accessibility web page:
-> <http://itu.int/accessibility>
- Dynamic Coalition on Accessibility and Disability:
-> <http://itu.int/accessibility/DC>

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- Stefano Polidori (ITU-TSB)
- Pierre-Andre Probst (ITU-T SG 16 Chairman)
- Greg Ratta (ITU-TSB)

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Additional slides

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“Accessibility” Article 9 of UN Convention on the rights of persons with disabilities

- Identify and eliminate obstacles and barriers to accessibility, including information, communications and other services, such as electronic services and emergency services
 - Independent life and full participation in all aspects of life
- Develop, promulgate and monitor the implementation of minimum standards and guidelines for the accessibility of facilities and services open to the public
- Ensure that private entities offering services to the public take into account all aspects of accessibility
- Provide training for stakeholders on accessibility issues
- Promote appropriate forms of assistance and support to persons with disabilities to ensure their access to information
- Promote access to new information and communications technologies and systems, including the Internet
- Promote the design, development, production and distribution of accessible information and communications technologies and systems at an early stage, so they are accessible at minimum cost.

ITU-T Joint Coordination Activity on Accessibility and Human Factors (JCA-AHF)

- To coordinate related activities and act as a single point of contact within ITU
- to provide the TSB Director with advice concerning the accessibility of ITU facilities, services and events
- to assist the ITU-T Study Group leadership to guide the creation of Recommendations that address the accessibility needs of end-users of telecommunication/ICT products and services
- to identify areas of common interest and promote collaboration with external bodies, such as:
 - ISO and IEC
 - other UN agencies and projects
 - regional standardization bodies
 - International organizations of persons with disabilities
 - International user organizations interested in accessible telecommunications/ICT
 - Professional societies for ergonomics/human factors and human-computer interaction
 - Industry groups and academia
- to assist government and regulatory bodies with pertinent information enabling successful procurement
- to disseminate information

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Current ITU-T Standardization topics:

- Q3/2 Human Factors and Ergonomics
 - Increasing usage, therefore revenues derived from international telecommunications services by improving ease of use.
 - Pictograms, symbols and icons to assist users of the telephone service (E.121F.910)
 - Human factors aspects of public telecommunication terminals for people with disabilities and the elderly (E.135,E.136, E.138)

Current ITU-T Standardization topics:

- Q26/16: Accessibility to MM Services and Systems
 - Work done on the needs of non-signing deaf and hard-of-hearing communities
 - Work will continued in future to address standards to support other types of disabilities in order to provide more media with good functionality for all.
 - Text telephony is evolving towards accessible mainstream multimedia (NGN, IPTV,...)
 - Several Recommendations of the F-, H-, T- and V-series describe accessibility features (V.18, V.151, T.134, H.323, H.324, H.248.2, Supplement 1 to the H-Series)
 - ITU-T Accessibility Flyer

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Current ITU-T Standardization topics: Multimedia – Accessibility

- ITU-T Rec F.790 “Telecommunications accessibility guidelines for older persons and persons with disabilities”:
 - General guidelines for standardizing, planning, developing, designing and distributing all forms of telecommunications equipment, software and services
 - Guidance on understanding the topic of accessibility and the ways that accessibility may be incorporated in products and services.

- Technical Paper: “Telecommunications Accessibility Checklist”
 - To ensure that accessibility needs are taken into account from the beginning
 - “Design for all” = “Inclusive design”
 - Aligned with the new UN Convention on the rights of persons with disabilities (Dec 2006 → May 2008)

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Current ITU-T Standardization topics: Multimedia – Accessibility

Accessibility Guideline (F.790)

- Detailed guidelines for Accessibility designers of communication systems
- Picks up on ISO/IEC Guide 71 with communications angle
 - Details and references for accessible
 - User interfaces
 - Communication products
 - Communication services
- The counter part from ITU to the ISO accessibility standards.

Current ITU-T Standardization topics: Multimedia – Accessibility

Accessibility Checklist (only 5 pages):

- Mainstream standardisers are focused on their main tasks
- Accessibility touches all communication designer's as router designers video codec researchers communication architects etc...
- They may not be aware that their area has accessibility aspects
- Time for getting their attention for accessibility issues is short and scarce.
- A very condensed accessibility checklist was needed to be used by mainstream standardisers.

Current ITU-T Standardization topics: Multimedia – Accessibility

Accessibility Checklist contains

- Basics of accessibility:
 - a: serve widest range of capabilities in original
 - b: settable characteristics for further adaptation
 - c: adaptable through standardised interfaces
- Use of the checklist
- Control of devices, control of services
- Media transport, Media entry by user
- Media presentation to user
- Invocation of media translating functions
- User and device profile management and usage
- Records from the use of the checklist

Current ITU-T Standardization topics: Multimedia – Accessibility

Checklist Example (1)

5.3 Media transport:

- Video transport properties should allow presentation of video with good quality for sign language and lip reading. [H-Seriessupplement-1]
- Text transport properties should make it possible to present text with good timing characteristics so that users do not experience excessive delay. [F.700]

These statements should result in enabling Total Conversation transport with real-time video, text and voice rather than just voice telephony

Current ITU-T Standardization topics: Multimedia – Accessibility

Checklist Example (2)

5.5 Media presentation to the user:

- Describe methods for presentation of alternative media, so that presentation of accessible media can be achieved

This statement should result in IPTV being defined from the beginning with globally harmonised features for:

- Subtitling and captions with fonts set table in size and colour
- Voice read out of captions
- Audio descriptions
- Supplementary video information

Accessibility standardisation for personal communication

Harmonizing text telephone communication

Result: ITU-T V.18 1994 automatic connection to all old systems

Common standard for Text Conversation presentation and coding – used in all subsequent work

Result: ITU-T T.140 1998 suitable for all written languages

Text Conversation addition to all multimedia

environments: T.120, H.320, H.323, H.324, IETF SIP

Result: additions for text to existing standards 1998-2000

Mobile application of Total Conversation

Result: 3GPP standards for IP based on ITU and IETF work 2001

Total Conversation and Text telephony interoperability

Result: Gateway packages for text in H.248.2, 2001.

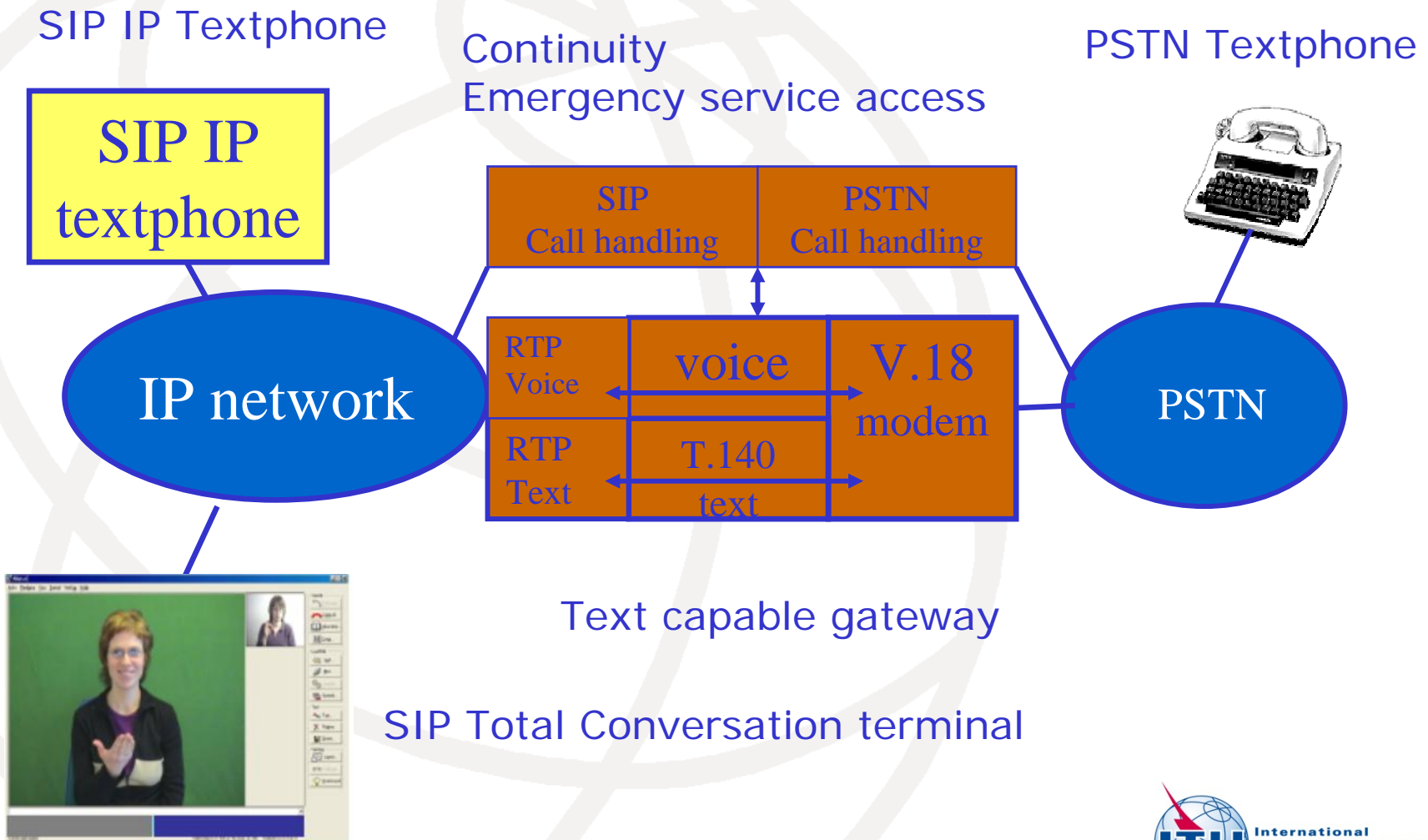
Now continuing in new gateway environments.

High-Speed Downlink Packet Access (HSDPA)

3G mobile telephony communications protocol in the High-Speed Packet Access

Current ITU-T Standardization topics: Multimedia – Accessibility

Text Telephony interoperability example



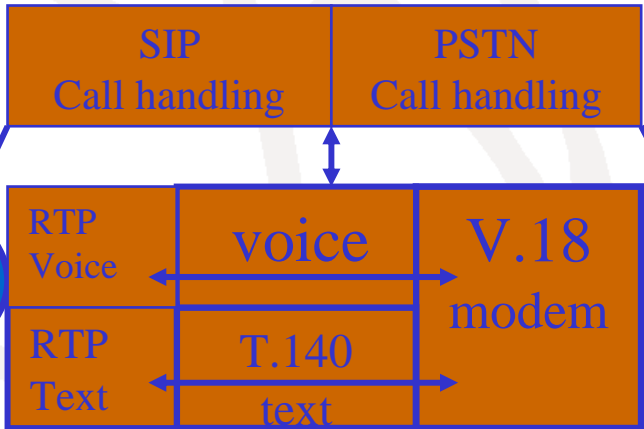
SIP IP Textphone

Continuity
Emergency service access

PSTN Textphone

SIP IP
textphone

IP network



PSTN

Text capable gateway



SIP Total Conversation terminal

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