Regional Development Forum 2008:
Bridging the ICT standardization gap in developing countries

Session 6 –
Development Trends in ITU-T:
Multimedia accessibility aspects

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- Multimedia standardization work in ITU-T
  - Definitions & Scope
  - Accessibility work within ITU-T SG16
  - Accessibility guidelines & checklist
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  - Accessibility & mobility
  - Interoperability
  - Summary

Current ITU-T Standardization topics: Multimedia – Accessibility

- Art. 9 UN Convention on the rights of persons with disabilities
- Accessibility (ISO16011): Usability of a product, service, environment or facility by people with the widest range of capabilities (General)
- =>Accessibility in the given context narrowed to disabled people
- Disabilities

Sensory/ physical

mental

educational

Q.26/16:
Accessibility to MM Services and Systems

economical
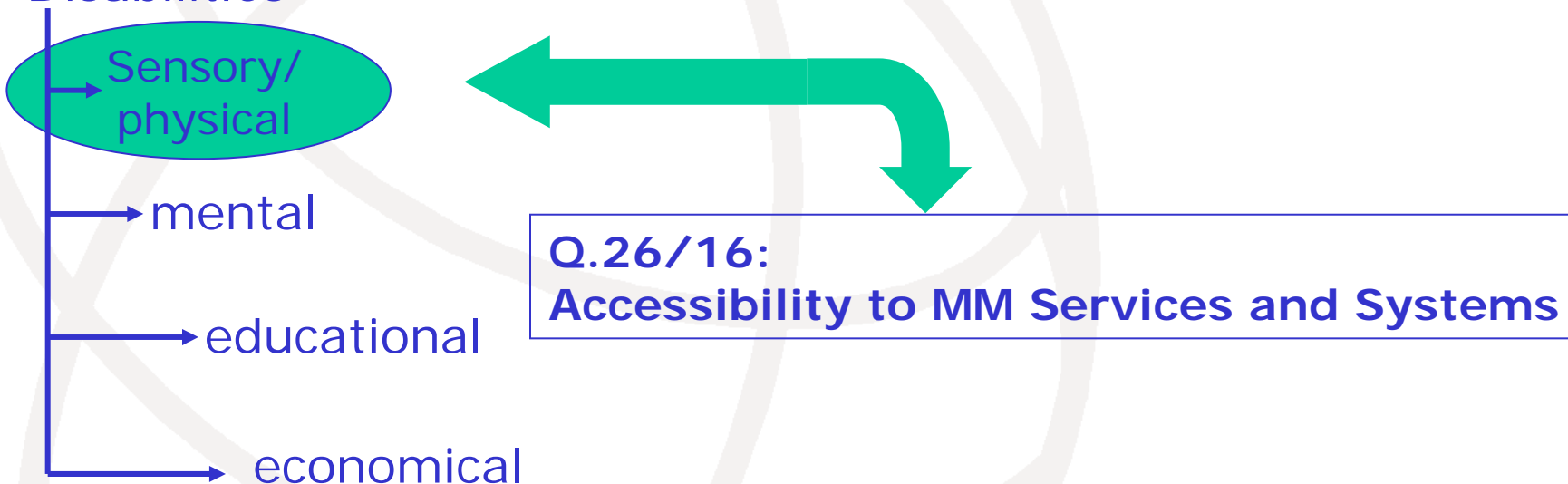
Current ITU-T Standardization topics: Multimedia – Accessibility

- **Q26/16: Accessibility to MM Services and Systems**
  - Many 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 Rec. 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
- **Cooperation with Human Factors work in ITU-T SG 2**
  - JCA-Accessibility and Human Factors (JCA-AHF)
- **Coordination with the development sector (ITU-D SG1 Question Q.20/1 (Access to telecommunication services for people with disabilities)**

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 (structured set of reminders)
  - "Design for all" = "Inclusive design"
  - Aligned with the new UN Convention on the rights of persons with disabilities (Dec 2006 → May 2008)

Current ITU-T Standardization topics: Multimedia – Accessibility

Accessibility Checklist (http://www.itu.int/publ/T-TUT-FSTP-2006-TACL/en):

- 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 main stream feature

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

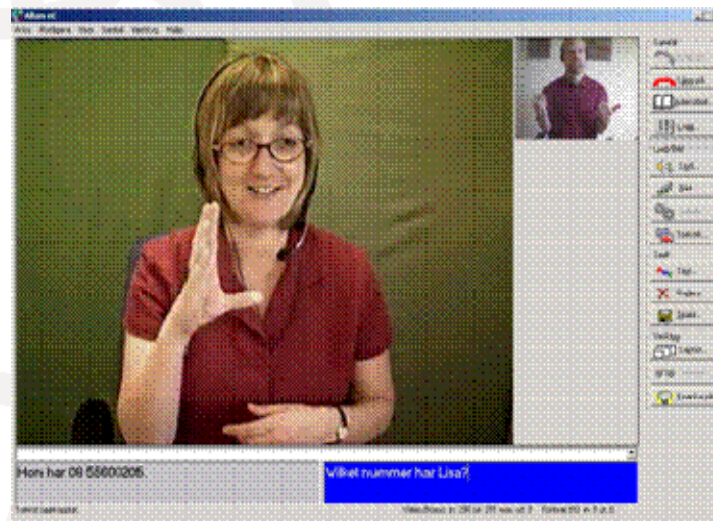# Current ITU-T Standardization topics: Multimedia – Accessibility

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.

Current ITU-T Standardization topics: Multimedia – Accessibility

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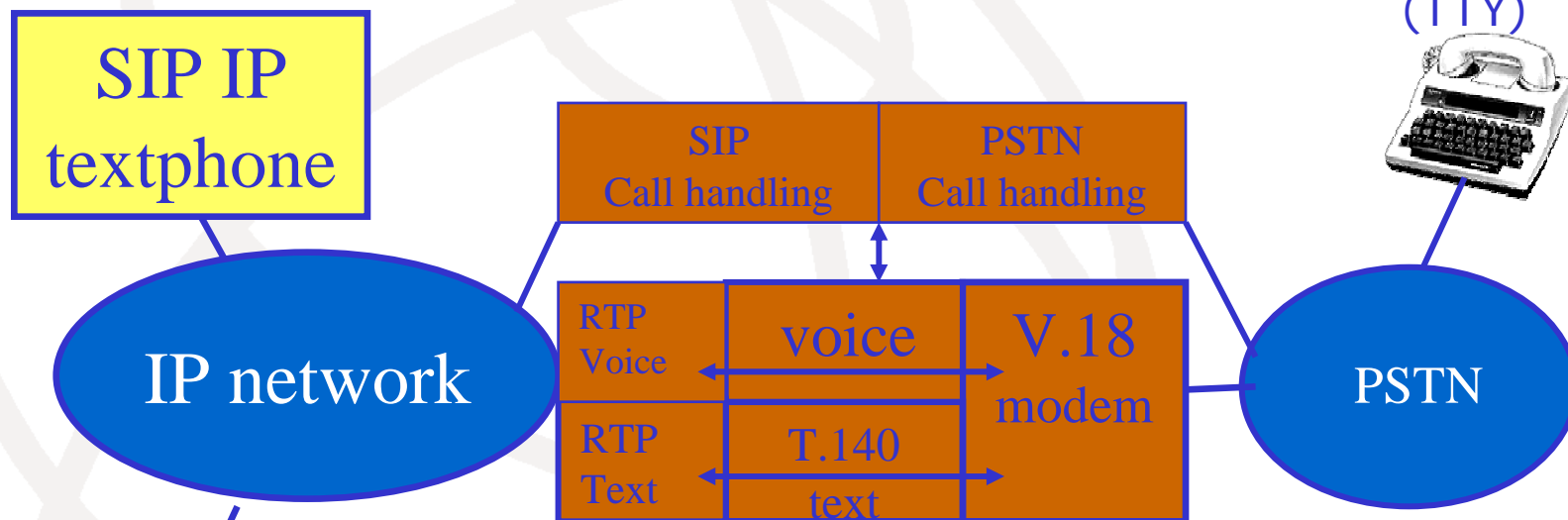

HSDPA connected
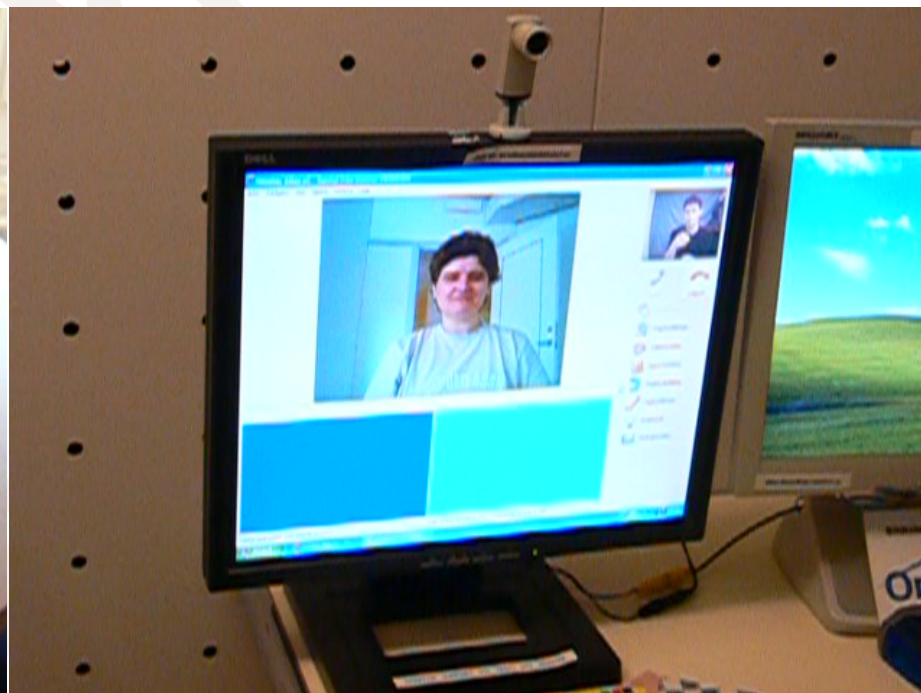
Fixed connection

Current ITU-T Standardization topics: Multimedia – Accessibility

Text Telephony interoperability example

SIP IP Textphone

PSTN Textphone

(TTY)

| SIP IP textphone |
| IP network |

SIP Call handling	PSTN Call handling
RTP Voice	voice	V.18 modem
RTP Text	T.140 text	

PSTN

Text capable gateway

SIP Total Conversation terminal

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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 in IPTV

Where accessibility needs impact technological development

- Audio description
- Subtitles
- Captions
- Supplementary video
- Spoken subtitles
- Size and colour on subtitles and background

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 (terminal equipment)
    - Communication services

- The counter part from ITU to the ISO accessibility standards.

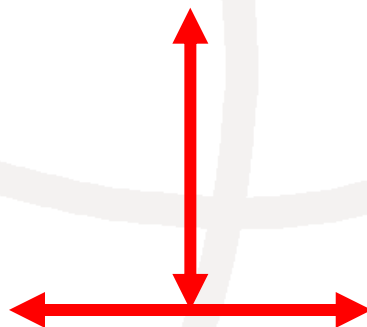# Current ITU-T Standardization topics: Multimedia – Accessibility

Video Relay services

Video relay service translating
sign language<>voice

3-party

Signing user

Talking voice (incl. PSAP)

Current ITU-T Standardization topics: Multimedia – Accessibility

Relay services translating between different modes of communication.

- An important component in providing equal opportunities.
  - Sign relay
  - Sign – and text relay
  - Text relay
  - Captioned text relay
  - Speech–to-speech relay

Emergency Supported by relay services when needed

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

Current ITU-T Standardization topics: Multimedia – Accessibility

Summary

- Interoperability, the most essential accessibility requirement behind communications for all
- It is easier to get standards created than implemented.
- For creation, use the Accessibility checklist and Accessibility guidelines.
- For implementation, encouragement from society to implement accessibility features is urgently needed. A number of mechanisms must be applied to reach society goals.

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Supplemental slides

Article 9 – Accessibility 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.

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

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