

SLIM use cases for real-time communication

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- There is good support from policy statements at many levels that persons with disabilities shall be provided with functionally equivalent communication as others.
- That can mean: (with wide variations)
- For some **deaf** users to have video for **sign language** communication
- For other **deaf** users to have **text** for typed communication
- For **adult deaf** users to **talk and get text back**.
- For some **deaf-blind** users **to talk and read enlarged text**
- For other **deaf-blind** users to use **sign language out and receive text displayed as Braille**
- For other **deaf-blind** users to use **typed text out and receive text displayed as Braille back**
- For some persons with **speech disabilities**, **to hear speech, and type text**
- For other persons with **speech disabilities**, **to hear speech and get support from speech-to-speech services** to convert vague speech to clear speech.
- **Having the three media: real-time text, video and audio gives opportunities to use the media required for the moment.**
- Sign languages are as many and different as there are spoken and written languages

Reason to use slim for real-time accessible communication

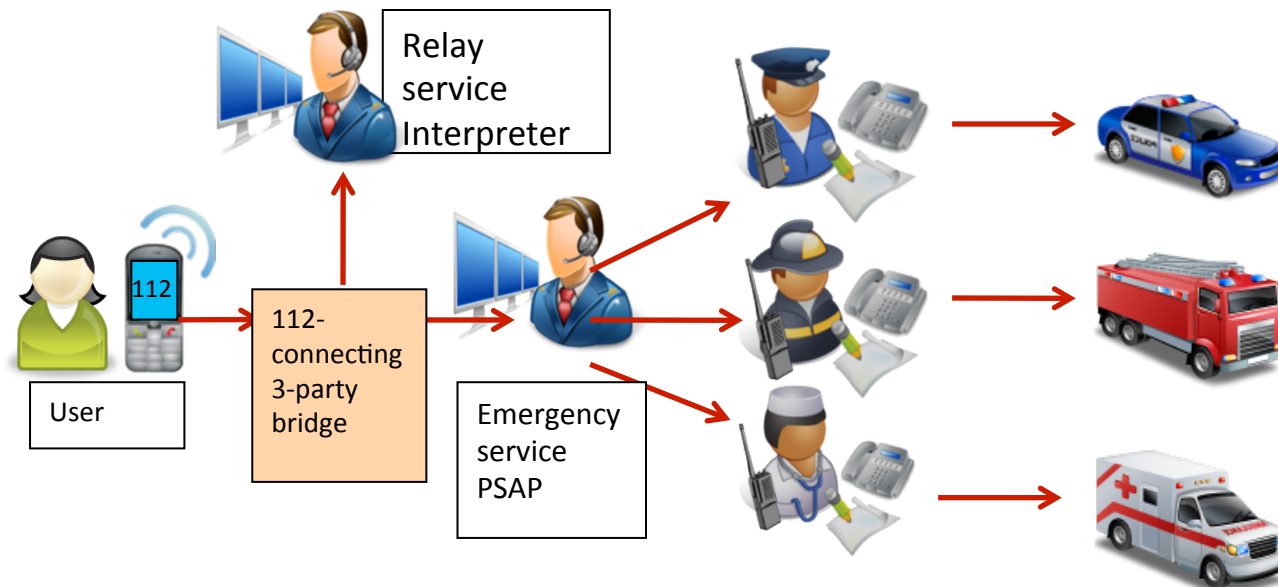


- Real-time communication with persons with disabilities sometimes requires a relay service to be invoked in the call.
- Relay services translate language communication between different modalities. The available kinds translate by human action between:
 - sign language and speech - video relay service
 - text and speech - text relay service
 - vague speech and clear speech - speech-to-speech relay service
 - speech and subtitled speech - captioned telephony relay service
 - sign language from the user translated to speech, and speech translated to text towards the user - video and text relay service
- Users generally prefer to:
 - communicate directly without a relay service when feasible
 - use mainstream terminal if the terminal supports the required media
 - just call and be called by destination number (or address) and get a relay service invoked if needed
 - Use the everyday terminal and settings also for the emergency case
- A service level standard for relay services exist in ETSI ES 202 975.
 - But there is no complete technical level standard for relay service interfaces.

Slim for accessible communication (continued)



- A technical method is needed that invokes a relay service when a call is established between two parties with no matching modalities and languages.
- To just let the user select when to invoke relay services will result in some calls with unnecessary relay services invoked.
- A specially desirable case when this should work is in emergency calls. A direct contact with the PSAP has shown to be very beneficial, but requires matching languages and modalities.
- SLIM indication of language and modality needs may be used



- Italian sign language user
 - Has a setting that indicates a preference for Italian sign language in video both ways.
- Italian **sign** language user **calls** Italian **speech** user
 - The language, modality and media needs are compared during call setup. They do not match, and the Italian Video relay service is invoked as a third party in the call. The speech user had no preference settings. That defaults to assuming speech of a dominating spoken language in the country.
- Italian **sign** language user **calls** Italian **sign** language users
 - The language, modality and media needs are compared and found matching, so no relay service is invoked.
- Italian **sign** language user get call **from** Italian **speech** user
 - Also on calls to the person with sign language setting, the preferences are compared and a relay service between spoken Italian and Italian sign language is invoked.
- Italian **sign** language user **calls** 112 for **emergency** in Italy
 - Assume that the Italian emergency service has NG 112 and that they can handle video, real-time text and audio in Italian speech, but not Italian sign language. A comparison during call setup invokes a relay service between Italian sign language and spoken Italian. The other media connections are established for occasional use.
- Italian **sign** language user is **in Poland** and calls 112 for an **emergency**
 - The comparisons during call setup result in the Italian video relay being invoked and the Polish 112 emergency service. Both services are notified that their spoken languages do not match and they either pull in interpreter and call taker who can handle English or the Polish PSAP pulls in a spoken language interpreter.

- Variation on the emergency case:
- Italian **sign** language user calls 112 for **emergency** in Italy
 - Assume that the Italian emergency service now has a special group with competence in Italian sign language. The comparisons during call setup causes the call to be routed to that group, and no relay service is needed.
- Other simple use cases on same theme
 - Users of **text both ways**, indicating preference for their language in text.
 - **Speech** users, indicating preference for their spoken language.
- Drawback
 - The case with signing to signing user and avoidance of relay service requires most users to have the language setting in order to be efficient. Manual request to do call without relay may be needed during phase-in.

- **A speaking and hearing person also has competence in a sign language.**
 - Wants to have spoken calls with others who use speech.
 - Wants to have sign language calls with others who use the same sign language, and not cause any relay service to be invoked.
 - This is a very common need in families and friends to deaf persons.
 - **A need to express multiple preferences with no requirement to fulfill all.**
- **A person, deafened by age who wants to speak and read**
 - For many persons deafened by age, it is much more convenient and rapid to talk than type.
 - Wants to express the need to receive written language, and talk in spoken language.
 - Can be fulfilled by a person acting in the opposite way, or by a captioned telephony relay service.
 - **A need to express directional language preferences and required combinations in different media.**

Indication of acceptable fall-backs

- The Italian sign language user can as a back-up accept to type and read Italian, but does not prefer that because it is much slower than signing.
- In a call with a hearing person who has also indicated competence in written Italian, they could be connected directly without relay service. Less convenient, but acceptable in some calls.
- **A need for indication of absolute level of preference between languages in different modalities.**

Interacting relay services – connecting two relay service users

- Two users indicate different modality and language preferences for a call. Solved by including two relay services using speech between them.
- Use case: Sign language deaf user calls adult deaf user.

- 🌐 A document covering how the language/modality indications can be used for decisions, routing and negotiation is needed but not included in the current charter.
- 🌐 That document needs to be developed in parallel for verification of usefulness of slim indications.
- 🌐 Work is in process in ETSI STF 489 for emergency service access where slim results may be suitable. IETF ECRIT has just got a Liaison from ETSI EMTEL about this work. Valid for slim as well.

Thank you



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https://portal.etsi.org/STFs/STF_HomePages/STF489/STF489.asp

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