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TR.TRAFGR
Technical Report on analysis of ITU-T F.930

ITU-T



Summary

This Technical Report (ITU-T TR.TRAFGR) relates to requests by certain entities for the allocation of directly assigned global numbers for four common types of relay service. In particular, it analyses the question of whether Recommendation ITU-T F.930 "Multimedia telecommunication relay services" has enough detail for the purposes required by ITU-T Study Group 2 to enable that study group to assign global resources for these text relay services or whether a new Recommendation is required. Specific issues that need to be addressed emerged from the analysis of Recommendation ITU-T F.930.

Keywords

Accessibility, telecommunications relay services, international calls, roaming, functional equivalency.

Note

This is an informative ITU-T publication. Mandatory provisions, such as those found in ITU-T Recommendations, are outside the scope of this publication. This publication should only be referenced bibliographically in ITU-T Recommendations.

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Technical Report ITU-T TR.TRAFGR

Technical Report on analysis of ITU-T F.930

1 Scope

This Technical Report analyses the description of telecommunications relay services (or simply referred to as relay services) as specified in Recommendation ITU-T F.930 as the potential basis for the assignment of global numbering resources in international, cross-country, and cross-language contexts. The aim of the Technical Report is to provide a roadmap of the discussions that have occurred in ITU-T SG2 and to analyse the contribution that ITU-T Recommendation makes to consideration of assigning global numbering resources.

The goal of Recommendation ITU-T F.930 is to attain functional equivalency for telecommunications between people with disabilities and hearing/speaking users for international calls, calls that involve language translation, and situations where users are roaming outside their home countries. A further aim is to enable multiple providers even in different countries to interwork with each other and allow users to enjoy a similar or the same experience as a hearing/speaking person irrespective of where their telephone calls originate and terminate.

2 References

- [ITU-T F.703] Recommendation ITU-T 703 (2000), *Multimedia conversational services*.
- [ITU-T F.745] Recommendation ITU-T F.745 (2016), *Functional requirements for network-based speech-to-speech translation services*.
- [ITU-T F.791] Recommendation ITU-T F.791 (2018), *Accessibility terms and definitions*.
- [ITU-T F.930] Recommendation ITU-T F.930 (2018), *Multimedia telecommunication relay services*.
- [ITU-T H.625] Recommendation ITU-T H.625 (2017), *Architecture for network-based speech-to-speech translation services*.

3 Definitions

3.1 Terms defined elsewhere

This Technical Report uses the following terms defined elsewhere:

3.1.1 access service or accessibility service [ITU-T F.791]: Provision of features intended to make primary audiovisual content accessible to users with specific needs, preferences or in specific environmental contexts.

3.1.2 accessibility [ITU-T F.791]: The degree to which a product, device, service, or environment (virtual or real) is available to as many people as possible.

3.1.3 disability [ITU-T F.791]: An evolving concept, which refers to the interaction between persons with impairments, and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others.

3.1.4 person with disabilities (PWD) [ITU-T F.791]: The correct way to refer to a person with a disability [b-UNCRPD].

3.1.5 person with specific needs [ITU-T F.791]: Includes persons with disabilities (PWDs), persons who are not literate, those with learning disabilities, children, indigenous people, older persons with age related disabilities, and anyone who has a temporary disability.

3.1.6 relay service [ITU-T F.791]: A telephone service that enables a person who is deaf or hard of hearing or whose speech is not clearly understood, or who prefers to use sign language, to place and receive telephone calls in real time.

3.1.7 sign language; signed language; visual signing [ITU-T F.791]: A natural language that, instead of relying on acoustically conveyed sound patterns, uses signs made by moving the hands combined with facial expressions and postures of the body to convey meaning.

3.1.8 sign language interpretation [ITU-T F.791]: Synchronized showing of an interpreter who uses sign language to convey the main audio content and dialogue to people who use sign language.

NOTE – In certain cases, a synthetic construct (e.g., an animated avatar) can be used in place of an interpreter.

3.1.9 functional equivalency [ITU-T F.930]: The capability to which persons with different range of abilities (in particular persons with disabilities and persons with specific needs) are able to use a communication service or system with a level of offered functions and convenience-of-use that is similar to those offered to the wider group of users in a population.

NOTE – These include both technical and economic considerations and that no financial discrimination is imposed on relay service users.

4 Abbreviations and acronyms

This Technical Report uses the following abbreviations and acronyms:

ENUM	Telephone Number Mapping
IMS	IP Multimedia Subsystem
OTT	Over The Top
PSTN	Public Switched Telephone Network
SIM	Subscriber Identity Module
VoIP	Voice over Internet Protocol
UPT	Universal Personal Telecommunications

5 Introduction

5.1 Background to requests to SG2

At the December 2019 meeting, ITU-T SG2 agreed to a new work item (SG2-C244) to review the relevance of the Recommendation ITU-T F.930 for the work under discussion in F.930. At the interim rapporteurs meeting held in Biel/Bienne, a proposal for the basis of future work (C2) of the structure of this Technical Report, together with an initial list of references and terms and definitions, was submitted. That interim rapporteurs meeting agreed that proposal as the way forward. At the May/June 2020 meeting an update to the Technical Report was submitted (SG2-TD1077) and agreed as the basis for future work. Upon that agreement this document has been produced for consideration at the interim Q1/2 meeting in November 2020.

5.2 Initial requests

The initial requests for globally direct resources were made to ITU-T SG2 at its December 2017 meeting. There were four contributions to that meeting:

The first contribution (SG2-C52) from G3ict (United States) and WGT (Luxemburg) contained a slide presentation of an "Initial presentation to NCT on September 5, 2017: Country Code to Promote Digital Access for Seniors and Persons with Disabilities". The slides in this contribution

were presented to the Numbering Co-ordination team. (SG2-TD224 refers). The contribution together with the slides appear in Annex A to this Technical Report.

The second contribution (SG2-C53) from G3ict (United States) and WGT (Luxemburg) is "Updated V.2 Presentation for SG2 on Country Code to Promote Digital Access for Seniors and Persons with Disabilities – November 2017". The contribution together with the slides appears in Annex B to this Technical Report.

The third contribution (SG2-C67) from G3ict (United States) and WGT (Luxemburg) is an "Application for Country Code 887 for Persons with Disabilities". The annex to the contribution which is the "G3ict application for Country Code for persons disabilities" appears in Annex C to this Technical Report.

The fourth contribution (SG2-68) WGT (Luxemburg) is an "Application for 878 UPT numbering resource and E.212 Mobile Country Code and Mobile Network Code in connection with G3ict – Global Initiative for Inclusive ICTs – Application for +887 Country Code for Persons with Disabilities". The annex to the contribution which is the "" appears in Annex D to this Technical Report.

In addition to the four contributions, there was also SG2-TD224. TD224 is "Background on G3ict request for a country code" and have the notes of the call between G3ict /WGT, TSB and NCT attached. The notes of that meeting appear in Annex E.

These four contributions were discussed. The results of the discussion, taken from the Q1/2 meeting report SG2-TD245-R1 (clause 3.5) states as follows:

SG2-TD224 (Chair SG2) provides some background on G3ict request for a country code. The document captures the elements exchanged during a conference call on the request for a country code where SG2-C52 was also introduced. In summary, the NCT concluded that there was no approved procedure to process the application for a country code of this nature and that the issue along with the application should be brought to the attention of Study Group 2 for advice.

SG2-C52 (G3ict and WGT) contains the presentation slides provided to NCT on September 5, 2017 as it related to the request for a "Country Code to Promote Digital Access for Seniors and Persons with Disabilities". The document was informational for this meeting.

SG2-C67 (G3ict) contains an Application for Country Code 887 for Persons with Disabilities.

SG2-C53 (G3ict and WGT) contains an updated presentation for SG2 relative to the application for a "Country Code to Promote Digital Access for Seniors and Persons with Disabilities – November 2017". The slides were introduced during the meeting.

SG2-C68 (World's Global Telecom (WGT)) requests the allocation by ITU of the UPT numbering resource 878 2x <...> to 878 9x <...> and of the E.212 Mobile Country Code and Mobile Network code in connection with G3iCT application for allocation of the country code 887 to G3ict in order to launch a global service to be funded and operated by WGT and open to all mobile operators interested in participating in the project.

The participants concurred that no recommendations or criteria are currently applicable to the two applications: there was no recommendation to assign a country code in this manner and the 878 recommendation was currently under revision.

The SG2 chairman reminded that E.164 Country Code 887 was already assigned to the ITU according to Recommendation ITU-T E.1100, for the purpose on International Helplines. The meeting asked TSB that the publication(s) on the ITU-T website relative to the E.164 numbering plan is consistent with this assignment.

The participants agreed to develop a list of elements that need to be addressed to consider the application described in SG2-C67. These elements are captured in SG2-TD278-R1. The meeting recommended that these elements be sent to the applicant by the Director of TSB and encouraged

the applicant to provide clarifications on these issues. A call for contributions on these issues was made to all participants.

Initial elements for clarification were provided by SG2-TD294. A call for contributions was made to both the applicant and others to make progress the topic. The topic would be given time at the interim meeting if it was held.

5.3 Relay services for which global resources were requested

At its July 2018 meeting, ITU-T SG2 had two further contributions submitted. SG2-C80, from WGT (Luxemburg) was a revised "Request for E.212 shared MCC and MNC, E.164 global number resources and E.164 resources for an international trial". In addition to revised application, the contribution also states "During the last SG2 meeting from 27 November to 1 December 2017, an initial clarification to the elements and questions contained in the document [SG2-TD278-R1](#) was submitted via the document [SG2-TD294](#). A revised reply to these elements and questions is also provided in Annex 1 of the attached PDF file". The revised application and Annex 1 to the application appear in Annex F.

SG2-C88 from WGT (Luxemburg) was a "Brief 5-page-description of service – Global Mobile Bot-Assisted Conference with Text-to-Voice-to-Text PLMN/PSTN for People with Disabilities – Annex to Application C80 – WGT'S Request for global number resources". The attachment appears in Annex G.

In addition to the two contributions SG2-TD434 was considered. SG2-TD434 is the "Presentation for SG2-C80" The slides of the presentation appear in Annex H.

These two contributions, and the associated SG2-TD434, were discussed. The results of the discussion, taken from the Q1/2 meeting report SG2-TD398-R1 (clause 3.5.2) states as follows:

SG2-C80 (WGT) contains the request for E.212 shared MCC and MNC, E.164 global number resources and E.164 resources for an international trial. The application was deferred to the Study Group by the Numbering Coordination Team for guidance on the way to proceed with the application. The associated presentation is in SG2-TD434.

C88 (WGT – World's Global Telecom) contains a summary of a the Bot-Assisted Conferencing for the revised application from World's Global Telecom for a MNC for trial. It consists in providing text to speech – speech to text interactions.

During the discussion, the following elements were clarified by the applicant:

- The applicant considers that for its business model, national numbers would not be feasible and considers that global resources can be expected to apply more affordable tariffs or termination rates. The range may also be a tariff marker to apply dedicated tariffs.
- Currently, however, the project uses national numbers .

One typical resource delegation model for the trial may be as follows:

- Registrations would be made through nationally recognised organisations; this would prevent misuse of the resources; it would not be available through the Internet or "high street shops".
- The assignee would provide subscriber identity module (SIM) cards through these organizations: these organizations will act as "retailers" but the assignee would have a direct relationship with the subscribers (and IMSI/MSISDN assignee).
- The infrastructure is global and centralized; and for the trial would be based in the EU with replication in other countries as national regulations may require.
- the service may be person-to-person but also conference calls; other services may be included.

- the application was made for a trial limited in time at this stage
- Roaming would be necessary, included in the trial

Given these elements, the meeting agreed that the application for an E.212 MNC and E.164 IC would not meet the current criteria defined in E.212 Annex and E.164.1 respectively.

The participants further agreed the need to review the assignment of codes for trials and convened an adhoc meeting to this purpose. The results of this adhoc meeting are as follows:

- SG2-TD445-R1 contains a new proposed annex of E.212 for "MCC-MNC codes for trials"
- SG2-TD467 contains the proposed revision for E.164.2 Identification Codes for trials.

Regarding both documents, the meeting called for contributions to finalize the work at the next meeting.

Regarding the WGT application, the meeting agreed to advise the Director to:

- proceed with the application from WGT for a CC+IC under the draft E.164.2 as per SG2-TD445-R1 in consultation with the NCT under E.164 Country Code 991.
- proceed with the application from WGT for a MCC+MNC under the draft new Annex as per SG2-TD467 in consultation with the NCT under E.212 Mobile Country Code 991.

The meeting also advised that other future applications would be treated under the same terms.

5.4 Criteria for allocation of global resources

At its February 2019 meeting there were two contributions to the meeting.

SG2-C140 from WGT (Russian Federation) was a "Proposal for draft new Recommendation E.disab". The text of this proposal appears in Annex I.

SG2-C168, from WGT (Russian Federation) was a "WGT Progress report" on the trials undertaken by WGT. The contribution had two attachments. The text of the contribution, together with the attachments appear in Annex J.

In addition to the two contributions SG2-TD593 was submitted by the TSB and discussed. SG2-TD593 is a "Letter from WGT on the number length of the assigned resources for their trial". The text of the letter appears in Annex K.

These two contributions, and the associated SG2-TD593, were discussed. The results of the discussion, taken from the Q1/2 meeting report SG2-TD612-R1 (clause 3.6, in part and clause 3.9) states as follows:

SG2-TD593 (TSB) is a letter from WGT on the number length of the assigned resources for their trial. The letter enquires on the legal basis for this condition (that is, the relevant provisions of ITU-T Recommendations, or decisions by ITU-T Study Group 2), and the reasons for imposing the cited condition.

During the discussion, it was noted that the service description for the relay service that underpins the application is provided in [ITU-T F.930]. The applicant also explained that the rationale for the use of shorter numbers was based on the fact that people with disabilities would find it harder to deal with 15 digit numbers. It was also clarified that the applicant intends to comply with national regulations in any country where it provides the service including a requirement to be registered as a Recognised Operating Agency.

During the discussion on the number length, it was clarified that regardless of the service, the NCT had systematically considered the numbering plans described in every application, and ensured that the 15 digit length was used in full as it appeared to provide all assurances that the resources would be used efficiently as recommended by E.190 and E.164.1. It was however noted that some

implementations may not be using the full 15 digit for all subscribers and the clause 9 of E.164 provides conditions under which subscriber numbers for Networks can be shorter than 15 digits.

The participants were encouraged to consider the specific case of this particular service and also consider the flexibility provided by E.164.

The meeting agreed that discussion would be required regarding exception for this particular service. Given the risks associated with the use of an IC consisting solely of short numbers. The rest of the discussion was deferred for the E.164 session.

SG2-C168 (World's Global Telecom) contains the progress report on the implementation of the trial code for Resources for people with disabilities.

SG2-C140 (World's Global Telecom) contains a proposal for draft new Recommendation E.disab.

The contributions develop criteria for assigning resources under a new country code for services for people with disabilities. The proposed criteria were discussed, and the meeting agreed that they would require further work for such a Recommendation to be developed. It was suggested that there would be alternatives nationally in some countries, but differing views were expressed.

Two sector members (WGT and G3ICT) supported the work item, several members noted that they would not support the work item, but were not opposed.

It was therefore agreed to convene an ad-hoc meeting with a mandate to:

- further develop the A.1 description of the work item;
- consider how the service can be defined as a preliminary step.

The result of the adhoc meeting is contained in SG2-TD661-R1. The Q1/2 meeting approved the work item. SG2-TD641-R1 was established as the baseline text for future contributions.

At its December meeting in 2019, ITU-T SG2 received seven contributions. SG2-C194 from Phonegroup (Switzerland) was a proposal on "Opening a new Country Code for services supporting people with disabilities". The text of this contribution appears in Annex L.

SG2-C230, from ICDRI (United States) is on "Special services for persons with disabilities". The text of this contribution appears an Annex M.

SG2-C231, from ICDRI (United States), is an "Introduction to Telecommunications Relay Services *Before and After Its Beginnings* for persons with disabilities and specific needs in text communication and sign language". The contribution had a powerpoint presentation attached. The text of the contribution and the powerpoint attachment appear in Annex N.

SG2-C232, from WGT (Russian Federation) is a "Report on trials of services for people with disabilities". It has 4 annexes. The text of the contribution as well as the annexes appear as Annex O.

SG2-C234, from WGT (Russian Federation) is a "Proposal for draft new Recommendation E.disab".The text in this proposal updates the text submitted to a previous ITU-T SG2 meeting. The text of this contribution appears as Annex P.

SG2-C235, from WGT (Russian Federation) is on "Opening a new country code for persons with disabilities". The text of the contribution, together with the powerpoint presentation, appear in Annex Q.

SG2-C244, from the UK, Proposed new work item on Analysis of Recommendation ITU-T F.930 Multimedia Telecommunication Relay Services. The text of this contribution appears in Annex R.

In addition to the seven contributions there were two Gen TDs. SG2-TD841 from the TSB is on "Communication received by the Secretary-General of ITU on Special Services for Persons with Disabilities". The text of this TD appears in Annex S.

SG2-TD867 from the TSB is "Communication received by the TSB Director from the World's Global Telecom (WGT) entitled "Trials on +991 trial E.164 code". The TD has two attachments. The text of this TD, together with the attachments appears in Annex T.

These seven contributions, and the associated TDs, were discussed. The results of the discussion, taken from the Q1/2 meeting report SG2-TD856-R3 (clause 3.14) states as follows:

SG2-TD867 (TSB) Communication received by the TSB Director from the World's Global Telecom (WGT) entitled "Trials on +991 trial E.164 code".

SG2-C194 (Phonegroup SA) provides rationale for opening a new country code for services supporting people with disabilities and supports the development of criteria for a new country code for telecommunication services for people with disabilities. Phonegroup will act as a hub.

SG2-C235 (WGT, Russian Federation) provides a rationale for creating a new country code to serve people with disabilities such as global mobile relay services for people with disabilities.

SG2-C232 + Corr.1-2 (WGT, Russian Federation) contains a report on trials of services for people with disabilities. The contribution proposes that ITU-T Study Group 2 advise the Director of TSB to allocate WGT a sub-code under the new country code for disability related telecommunication services, pending the Determination of the ITU-T Recommendation on such code (E.disab).

During the discussion on this Contribution, clarifications were given with regard to the constraint that led to using the +991 01 number instead of the assigned +991 001 for one of the three trials. It was also noted that the trial had to use a technical architecture which would change for a full scale deployment.

SG2-C234 (WGT, Russian Federation) Proposal for draft new Recommendation E.disab World's Global Telecom (Russian Federation). It presents a proposal for a draft new Recommendation ITU-T E.disab that specifies a country code that is available for use by entities who wish to offer international telecommunication services for persons with disabilities and persons with specific needs.

SG2-C244 (United Kingdom) contains a proposal for a new work item on Analysis of Recommendation ITU-T F.930 Multimedia Telecommunication Relay Services. It proposes to assess whether additional ITU-T Recommendations are required for the purpose of assigning global resources for use in text relay services.

SG2-C231 (ICDRI) provides an introduction to telecommunications relay services "Before and After Its Beginnings" for persons with disabilities and specific needs in text communication and sign language. It considers how a specific numbering scheme may be of assistance for these services.

SG2-C230 (ICDRI) reproduces a letter to ITU management from the World Disability Union supporting efforts to create a more favourable framework for the telecommunication services and global telecom infrastructure for serving special needs of people with disabilities.

SG2-TD841 (TSB) provides the same communication received by the Secretary-General of ITU on Special Services for Person with Disabilities.

As a way forward, the meeting agreed to initiate a new work item to assess whether additional ITU-T Recommendations are required for the purpose of assigning global resources for use in text relay services.

For this, the meeting called for contributions to produce a Technical Report assessing whether Recommendation ITU-T F.930 has sufficient detail for the purposes required by ITU-T SG2 for SG2 to assign global resources for such a purpose or whether additional ITU-T Recommendation(s) would be required.

SG2-TD952 contains the A.13 template for this. WGT supports this work. It was agreed to send a liaison SG16 Q26, ITU-D Q7/1, and JCA AHF as contained in SG2-TD955.

The participants also recommended that the assignment of a trial code 991 001 be extended, and it was also understood that given the nature of the code, there would be no wide scale deployment. Any planned changes in the way the resource is being used should be notified to the Director and agreed in advance.

For a long-term solution, contributions were encouraged on the need for a global country code for services for social needs which may meet the need of several types of services including fund raising services and services supporting people with disabilities, and child helplines.

Based on this agreement the above contributions are closed.

SG2-TD741 (SG2) is an outgoing liaison sent in March 2019 to ITU-T SG16/26, ITU-D Q1/7, JCA-AHF on new work item on draft Recommendation ITU-T E.disab "Specification of an international numbering resource for use in the provisioning of services for persons with disabilities and persons with specific needs ". This liaison was for information.

SG2-TD759 (ITU-T SG16) is an incoming liaison from SG16 on a new work item on draft Recommendation ITU-T E.disab "Specification of an international numbering resource for use in the provisioning of services for persons with disabilities and persons with specific needs" (SG2-LS111). This liaison was for information.

At the May/June meeting of SG2, three submissions were received by ITU-T SG2. These were:

SG2-C278 (World's Global Telecom) contains a proposal on a way forward to accelerate re-defining of country code +888 as a shared humanitarian global country code and to enable preliminary global humanitarian network planning for services for people with disabilities with sub-codes under +888. The text of the contribution is available through the URL in Annex U.

SG2-C261 (World's Global Telecom) proposes a new work item, Recommendation ITU-T E.1110-Humanitarian on "Humanitarian Global Networks and Services – Numbering, Addressing and Identifiers for networks and diverse global services for humanitarian and social needs," for humanitarian country code +888 and its sub-codes. The text of the contribution is available through the URL in Annex V.

SG2-C276 (World's Global Telecom) proposes to amend E.1110 to include cases for COVID-19, especially to help persons with disabilities worldwide. The text of the contribution is available through the URL in Annex W.

The results of the discussion, taken from the Q1/2 meeting report SG2-TD1063-R2 (clause 3.4) states as follows:

The meeting reviewed the history for considering E.164 country code 888 for services for global accessibility for persons with disabilities since the beginning of the Study Period.

SG2-TD1077 (Q1/2 Rapporteur) presents a status update on the progress of TR.TRAFGR, "Technical Report of the analysis of F.930 for global resource assignment." The document provides an update on the assessment of how the proposed service for 888 relates to or impacts relay services, as defined in Recommendation ITU-T F.930.

The meeting agreed that this document serve as the basis for future work on TR.TRAFGR. Mr. Phil Rushton volunteered to act as Editor.

SG2-TD1086 (ITU-T SG16) contains a liaison informing SG2 as to a new work item in Q26/16, a new draft Recommendation, F.ACC-Humanitarian, for various potential humanitarian projects, and in particular to provide a global digital telecommunications platform designed to meet the specific needs of persons with disabilities worldwide, especially during COVID-19. The liaison also

proposes coordination of work between SG2 and SG16, given that the initiated work contains elements regarding numbering and identifiers.

The meeting prepared a reply liaison to SG16, contained in SG2-TD1124. Following review of the draft liaison, the meeting agreed to prepare a revision of the liaison reflecting the final outcomes of the discussion, which will be reviewed and approved at the WP1/2 level.

Throughout the discussions, the meeting welcomed the valuable participation of Q26/16 and JCA-AHF experts, and agreed as to the importance overall of efforts to improve accessibility for persons with disabilities.

SG2-TD1088 (TSB) contains a communication received by the TSB Director from World's Global Telecom (WGT) entitled "Re: Humanitarian global telecommunications country code +888 should be opened for deployment of humanitarian global networks and services without delays."

The meeting noted this document as background/context for the discussion.

SG2-C278 (World's Global Telecom) contains a proposal on a way forward to accelerate re-defining of country code +888 as a shared humanitarian global country code and to enable preliminary global humanitarian network planning for services for persons with disabilities with sub-codes under +888.

SG2-C261 (World's Global Telecom) proposes a new work item, Recommendation ITU-T E.1110-Humanitarian on "Humanitarian Global Networks and Services – Numbering, Addressing and Identifiers for networks and diverse global services for humanitarian and social needs," for humanitarian country code +888 and its sub-codes.

Based on the discussion, the meeting agreed that the A.1 justification form for the proposed new work item needed further development via the Q1/2 mailing list. The result of this work is contained in SG2-TD1103.

SG2-C276 (World's Global Telecom) proposes to amend E.1110 to include cases for COVID-19, especially to help persons with disabilities worldwide.

The contribution illustrated how services in response to COVID-19 are essentially a use case for the proposed use of country code +888 as a shared humanitarian global country code. There was some discussion, but no agreed conclusion, to whether the possible temporary use of +888 codes for COVID-19 response was a separate and distinct issue from the possible permanent use of +888 codes for global accessibility services for persons with disabilities, or should be viewed as linked.

Based on the discussion, the meeting requested WGT to elaborate on the following elements for clarification as to the proposed potential use of country code 888: architecture, routing, pricing, use cases, and legal intercept, *i.e.*, meeting the regulatory requirements. The additional information provided by WGT regarding the GLEOSS Initiative is contained in SG2-TD1119. The meeting thanked WGT for the useful information, and it was noted that additional time to review more closely may be needed. There was a proposal to open the work item as a Technical Report, to help with understanding and form the basis for a possible recommendation from that work.

Following further review and consideration of the A.1 justification for the proposed new work item regarding E.1110, an additional look at the A.1 was agreed. In conclusion, the meeting expressed support to progress the proposed work as a Technical Report, and agreed to hold an e-meeting dedicated to this topic, which will provide an opportunity to more fully address the questions and comments raised during the present discussions. The participants invited contributions to the e-meeting, including the proposed necessary revisions to the A.1 justification to convert it into an A.13 justification for the Technical Report. In response to a suggestion from WGT, the meeting also invited WGT to contribute to the e-meeting with more information as to the specific language and mechanisms for a proposed communication to the ITU community regarding existing Recommendation ITU-T E.1110 and the use of +888.

At the 11 August 2020 interim meeting on Humanitarian Country Code (+888) and all related matters two contributions were submitted to the meeting. These were Q1/2-C2 (World's Global Telecom) contains Proposal of amendments related to humanitarian nature of the country code towards Working Item SG2-TD641 (Draft new Recommendation ITU-T E.disab – Specification of an international numbering resource for use in the provisioning of services for persons with disabilities and persons with specific needs). Q1/2-C2-A1(World's Global Telecom) is an addendum to the above, providing an "Overview of GLEOSS platform and the specifics of architecture and operational model." The text of the contribution is available through the URL in Annex X.

Q1/2-C1 (DCMS, UK) offers a proposal to assist in the potential assignment of an international numbering resource for services of a humanitarian nature. The contribution suggests that the various alternative methods available for the provision of numbering resources for the services being promoted is undertaken so that all available options are assessed. The text of the contribution is available through the URL in Annex Y.

The results of the discussion, taken from the Q1/2 meeting report SG2-TD1178 states as follows:

During the June 2020 Q1/2 meeting, it was agreed to progress the proposed work and potential use of E.164 country code 888 as a Technical Report. In particular, draft texts for both an A.1 justification for a Work Item and an A.13 justification for the Technical Report were considered. The goal of this e-meeting was to further progress this work.

Q1/2-C2 (World's Global Telecom) contains a proposal of amendments related to humanitarian nature of the country code towards Working Item SG2-TD641 (Draft new Recommendation ITU-T E.disab – Specification of an international numbering resource for use in the provisioning of services for persons with disabilities and persons with specific needs).

Q1/2-C2-A1 (World's Global Telecom) is an addendum to the above, providing an "Overview of GLEOSS platform and the specifics of architecture and operational model."

During the discussion on C1/2-2, the meeting reviewed the conditions of the trial. WGT clarified the fact that the "Proof of Concept" was based on 991 numbers in addition to national numbers, and that these numbers were presented as GLEOSS Calling Line Identities. The use of the global number during the trial was associated with additional dial-in facilities. In this respect the users of the GLEOSS system can be considered as a (large) closed user group.

The meeting reviewed the following elements where WGT provided clarification:

- How numbers are distributed and how users would qualify (and how would they be evaluated and against which criteria)
 - WGT explained that the approval for a request from a user for a number would be vetted by national organizations, and if approved the assignment of a number would be made through a mobile operator that has a partnership with WGT.
- What is the entity that is responsible for the management of the numbering plan (assignment of the ranges, and the individual numbers) – with the assumption that CC 888 would be assigned for the service.
 - WGT clarified that numbers would only be assigned individually (i.e., no subrange would be assigned to countries, for example).
- The service is based on a prototype mobile application, that can use a combination of national and global numbers.

It was noted that several mobile operators were part of the trial, notably in Bulgaria, Finland and Azerbaijan. The participants kindly requested that WGT posts an update of the TD and additional elements such as the economic model, pricing, cases where numbers had to be disconnected for them to be shared with operators in other countries.

The reference of the report of the 991 trial can be found in SG2-TD867 (Communication received by the TSB Director from the World's Global Telecom (WGT) entitled "Trials on +991 trial E.164 code").

The meeting thanked WGT for the clarifications regarding the possible use of country code +888.

Q1/2-C1 (DCMS, UK) offers a proposal to assist in the potential assignment of International Numbering Resource for services of a humanitarian nature.

The contribution suggests that the various alternative methods available for the provision of numbering resources for the services being promoted is undertaken so that all available options are assessed.

In conclusion, the participants noted the following elements needed further clarification:

- the flow chart of how numbers are assigned and used (i.e., description of the various entities, the relationship with number portability where applicable, etc.)
- what are the conditions for obtaining/using the numbers, who defined them, who enforces them. i.e., who qualifies to be a "dealer of these numbers"
- what are the safeguards against misuse of these numbers?
- an estimate of the size of the numberspace that is necessary for the service? (as per E.190)

Based on the discussion, the meeting agreed on the following next steps for a future meeting:

- finalisation of the A.13 template and A.1 template, and update of Recommendation ITU-T E.1110-Humanitarian on "Humanitarian Global Networks and Services – Numbering, Addressing and Identifiers for networks and diverse global services for humanitarian and social needs";
- a review of E.disab "Specification of an international numbering resource for use in the provisioning of services for persons with disabilities and persons with specific needs";
- an updated of Technical Report TR.TRAFGR, "Technical report of the analysis of F.930 for global resource assignment." to address the issues raised in Q1/2-C1;
- A clarification on the elements identified above.

Depending on the final dates for WTSA (unknown at the time of the meeting), the meeting agreed that consideration should be given to having an e-meeting in 2020 on this same topic, and more broadly consideration on the issue will be taken under the next meeting of Question 1/2.

At the September 2020 meeting of ITU-T SG2, there were 4 contributions relating to the assignment of a Country Code for humanitarian purposes. These were:

- SG2-C280: Draft Technical Report on rationale for assignment and operation specifics for use of international numbering resources (i.e. global E.164 country code) for services of a humanitarian nature for people with disabilities and specific needs (World's Global Telecom). The text of the contribution is available through the URL in Annex Z.
- SG2-C284: Subscriber number life cycle and subscriber management processes of GLEOSS Initiative on humanitarian international numbering resources (Clarification by WGT) (World's Global Telecom). The text of the contribution is available through the URL in Annex AA.
- SG2-C286: Proposal to approve creation of a new humanitarian country code for disability related services, move draft new recommendation E.disab for finalizing review and adoption, and to issue an ITU-T communication on this matter (World's Global Telecom). The text of the contribution is available through the URL in Annex AB.
- SG2-C288: Issues associated with assignment of a code for humanitarian purposes (United Kingdom). The text of the contribution is available through the URL in Annex AC.

The results of the discussion, taken from the ITU-T SG2 plenary meeting on 7 September (R-28) states as follows:

The four Contributions were presented and, following a discussion that included reference to the interim meeting of 11 August, as contained in the report SG2-TD1178, the meeting agreed that the contributions be forwarded to an interim Q1/2 Rapporteur group meeting for further discussion and development of the texts.

In October 2020, WGT sent a letter by email to the Chair and representatives of all countries. This was posted as a TD to the forthcoming interim Q1/2 meeting. The text of the contribution is available through the URL in Annex AD. A response from the rapporteur, also submitted to the forthcoming Q1/2 meeting is available through the URL in Annex AE.

6 Analysis of Recommendation ITU-T F.930

Recommendation ITU-T F.930 "Multimedia telecommunications relay services" was approved in October 2018. As a basis of use for the assignment of global numbers this was some 12 months after the first requirement for global numbers being submitted to ITU-T SG2.

[ITU-T F.930] presents a generalised overview of multimedia text relay services. The purpose of the analysis is whether such an overview is a sufficient basis for consideration of assigning global NNAI resources.

Within F.930 reference is made to three other Recommendations, specifically

- [ITU-T F.703] Recommendation ITU-T F.703 (2000), *Multimedia conversational services*.
- [ITU-T F.745] Recommendation ITU-T F.745 (2016), Functional requirements for network-based speech-to-speech translation services.
- [ITU-T H.625] Recommendation ITU-T H.625 (2017), *Architecture for network-based speech-to-speech translation services*.

In addition, terms from Recommendation ITU-T F.791 accessibility terms and definitions are included in [ITU-T F.930]. These other Recommendations are included in the following analysis in so far as they clarify what is intended by [ITU-T F.930] and therefore are relevant to the analysis as a whole.

The analysis of the text of [ITU-T F.930] will be assessed to indicate whether it is sufficiently detailed to be described as a service definition for the purposes of ITU-T SG2. This analysis will be undertaken clause by clause and will be the basis for conclusions to be drawn on the relevance of [ITU-T F.930].

In the general introduction to telecommunication services, specifically clause 6.1, there is statement that people with disabilities "...have difficulties with the use of the traditional telephone service, which highly rely on voice"¹. There is no description of what the traditional telephone service is, or how it restricts and impacts people with disabilities.

In the same section there is a description of relay services that refers to "...converting a medium (e.g., voice) to another medium..."². The lack of detail as to the relationship that such a conversion has with the traditional telephone service does not assist in understanding the original issue. This lack of detail is further compounded by the reference in the same section to "the user with the disability has a terminal that provides an accessible communication medium, such as video or text."³ So is it the telephone service that is the restricting issue for people with disabilities or is it

¹ Recommendation ITU-T F.930 Multimedia telecommunications relay services clause 6.1 Page 4

² Ibid

³ Ibid

the equipment (that is not cited in this section) that is the issue? Also if it is the service then what aspect of the service is the restricting issue?, or is it an element of both?

Also, within this clause the concept of a communications assistant that [ITU-T F.930] defines as a person is introduced. The description of the role of the communications assistant is supported by a figure⁴ and a table of examples⁵. Both of these examples provide further overview of the types of services that could be provided. This is further developed with the introduction of the concept of the carry over services that sees either voice or hearing use "...transmitted to the user directly or via the relay centre"⁶. There are no descriptions as to the message flows that would be required to support such services that would be implemented by the user.

In clause 6.2, on functional equivalency, [ITU-T F.930] seeks, albeit in a brief fashion, to present the technical, legal and regulatory requirements of text relay services. Apart from presenting the high-level requirement, it could be considered that the goal of functional equivalency is not just that "the users of relay services would not be at a disadvantage compared to the options available to the mainstream"⁷(noting that the term mainstream is not clear and not defined) but rather the goal is also to ensure the inclusion of people with disabilities.

In clause 6.3, on components of relay services, [ITU-T F.930] does not assist the consideration of a text relay service. There is reference to "...network services (in a narrow sense)..." that is not defined but rather is described as being able to "...carry the various communication media that are used in relay services"⁸. There is no other description of network services (in a narrow sense). Instead reference is made to the "variety of multimedia conversational services applicable to relay services....are specified in ITU-T F.703"⁹.

[ITU-T F.703] "Multimedia Conversational Services" describes such services as being bi-directional and combining an audio facility with motion video, and is applicable to dedicated terminal equipment. The approach taken in [ITU-T F.703] is very specific and constrains the services that would be implemented based on [ITU-T F.930]. It is unclear as to the relevance of the reference to [ITU-T F.703] in [ITU-T F.930]. There is a separate discussion on terminals in clause 8.1 discussed below.

Clause 6.4 is the consideration of international aspects of interworking and interoperability and other than referring to the principle of functional equivalency (see clause 6.2 above) states that further study on technical, policy, financial and legal aspects are required. This does not add significantly to the evaluation of internationally available services.

Clause 7 identifies the four major types of relay services. These are text relay (clause 7.1), both PSTN based (clause 7.1.1) and IP based,(clause 7.1.2), Video relay (clause 7.2) Captioned telephone relay service (clause 7.3) and Speech to speech real (clause 7.4).

Clause 7.1.1, text relay that is PSTN based refers to two possibilities to establish a call. One-step dialling that requires a prefix followed by a destination number, or two-step dialling that requires a call to the relay centre who then dials the destination user. There is no rationale or criteria for why a user would use either one-step dialling or two-step dialling. The reference to a prefix, in numbering terms, is misleading as it is a national only number, and might also be found in destination number

⁴ Ibid, Figure 1, P5

⁵ Ibid Table 1 p5

⁶ Ibid page P6

⁷ Ibid, clause 6.2 p7

⁸ Ibid clause 6.3

⁹ Ibid clause 6.3

in an environment that supports local dialling, as part of the dialling plan. No distinction is offered for PLMN.

Clause 7.1.2, text relay that is IP based, and seeks to describe the greater potential that IP capable hardware/software provides. The use cases that are present refer to the automatic delivery of the number from the originator's equipment. This is not described in clause 7.1. and the question is why not as CLI is present in the signalling system.

Other issues that emerge from clause 7.1.2 include the lack of distinction between IP that is present within a telecommunication operators environment and IP that is present within the Internet. The reference to IMS is not explained. As a consequence, the potential use of OTT services is not explored and the consequences and concerns expressed elsewhere about OTT services are not taken into account.

Also, the reference to a deaf user's phone number being registered in the ENUM database is not addressed. Which ENUM database is being referred to? What type of ENUM – user or infrastructure – is being referred to? The assumption is that there is a database and that might not be the case. The question also emerges as to why an ENUM database is required.

Clause 7.2 Video relay (video to speech relay), is stated as having call set-up options similar to those described in clause 7.1.2. There is reference to PSTN, VoIP or IMS phone number. The services associated with these phone numbers are not explored further. The relevant detail associated with the reference to [ITU-T F.703] in this clause is also not explained.

Clause 7.3 Captioned telephony relay service does not describe the use of numbers in detail nor does the text offer detail as to how some scenarios would be technically implemented. One example of this is the provision of a single phone line supporting both voice and captions. No distinction is made between text and captions.

However, the text in clause 7.3 does, albeit briefly, distinguish mobile devices and the need for a voice and data plan to support simultaneous use. This separation is not reflected elsewhere in clause 7.

Clause 7.4, speech to speech relay uses a regular voice, VoIP or IMS phone to contact the relay centre using previously identified methods. The issues with the call establishment methods are identified above.

Clause 8 refers to the service requirements and covers end user equipment (clause 8.1), call set-up, modification and tear down procedures (clause 8.2), communication assistant (clause 8.3), including training (clause 8.3.1), point to point calling (clause 8.4), speed of answer (clause 8.5), emergency call handling (clause 8.6), message service, storage, indication and retrieval (clause 8.7) and key performance indicators (clause 8.8).

Clause 8.1 identifies three types of terminals; relay specific, a combination of relay specific and ordinary telephones, and smartphones tablets and PCs with applications and recognises that the detailed terminal requirements are for further study. The need to standardise communication and media protocols is also stated as a requirement but there is no analysis of current protocols to evidence where the current protocols of whatever technology fall-short in supporting any of the four relay types.

Clause 8.2, call set-up, modification and tear down procedures, raises several issues. Tear down procedures are not defined. A requirement for terminals and networks to make the use of telephone numbers (without prefixes) is identified. However, there is no acknowledgement based on the text in clause 7.1.2 of the potential impact of this in providing OTT like services over IP networks, because of the lack of distinction. The requirement regarding the appropriate CLI being used is worthy of further discussion, and needs to be considered in the context of national regulation driven by Recommendation ITU-T E.157 International calling party number delivery.

Clause 8.2 further identifies a requirement where the person with disabilities' telephone number is routed automatically to a relay service to the termination point. There is no description of how this is done.

The requirement for details of the person with disabilities to be registered recognises that further study is required of the detailed mechanisms of what is not clear, data format, and potential privacy issues. Such a requirement is to have the calls to the phone number (which phone number is not stated) to be automatically routed to the appropriate communication assistant. It is also not clear how this registration would work with regard to the call establishment types identified earlier. It would also appear that there is an implicit assumption made regarding the relay service business. That assumption is outside of the scope of this report.

Clause 8.2 communication assistant identifies two groups for requirements, but it is not explicitly stated that the requirements are for communication assistant nor what are the requirements. Clause 8.3.1 communication assistant training has no impact upon the review for the purposes of this Technical Report.

Clause 8.4, point to point calling is identified as a requirement for both terminals and relay service provider networks. Relay service provider networks are not defined, or described anywhere.

Clause 8.5, speed of answer, is for further study.

Clause 8.6 emergency call handling assumes that the call to emergency services will go through the relay service. In and of itself that raises issues regarding how emergency calls are handled within a national environment. Examples of next generation emergency services are given but other than stating that the call set up procedures defined in clause 8.2 should interoperate, nothing else is stated. There is no analysis of the next generation services to see whether the requirements remain sufficient, valid and relevant. No acknowledgement is given as to the direct contact that a person with disabilities may have with public safety access points.

Clause 8.7, message service, storage, indication and retrieval, indicates non-normative text as examples. This is not considered further as such in this report.

Clause 8.8, key performance indicators is recognised as a critical subject to achieve functional equivalency. No further detail is offered on key performance indicators other than to that the parameters to be measured, and their values are likely to be different for each of the four major services. By services, the assumption is that this is reference to the four types of relay services.

Clause 9, security confidentiality and security are cited as being one of the critical subjects to achieving functional equivalency, and that such considerations extend to the technologies and the communication assistant. Other than stating that provision of encrypted calls shall be provided if the country in which the service is located provides encrypted call, and that confidentiality and call security should mirror mainstream telecommunication services. The detailed mechanisms for achieving privacy, confidentiality and security require further study.

7 Conclusions of analysis of Recommendation ITU-T F.930

[ITU-T F.930] presents an overview of text relay services, and identifies factors associated with the deployment. The basic text relay service is identified and it is clear that conformance with the Recommendation requires use of a human communication assistant. Although the importance of such a requirement is not stated, it is obvious that the flexibility from human intervention in such communication is in-line with the overall intent of facilitating the necessary human interaction required by people with specific needs.

The basic text relay service allows for direct communication between the originator and recipient of a call, without intervention as well as permitting the intervention of the (human) communication agent. The level of detail that is present in [ITU-T F.930] provides sufficient guidance to begin to assess an implementation of a text relay service that requires (global) numbering resources, or to

assist member states in the deployment of a text relay service. [ITU-T F.930] does not provide guidance as to other service surrounds in support of people with specific needs, nor does the Recommendation provide sufficient detail at the level of the protocol exchange that would be required in some aspects of the text relay service.

The text of the Recommendation identifies other aspects of implementation that vary in their detail, but raise some serious questions with regard to implementation, and that in turn raise issues with regard to services and NNAI aspects.

The current text of Recommendation ITU-T F.930 utilises terms that are not defined, nor does it indicate where definitions can be found. These terms include "traditional telephone service", and "network services (in a narrow sense)" and therefore the nature of the issue(s) being addressed are not clear. The reference to Recommendation ITU-T F.703 "Multimedia conversational services" exists but its assistance is limited to supporting aspects of the text relay service, nothing more. Recommendation ITU-T F.703 describes "Multimedia conversational services" as being bi-directional and combining audio facility with motion video.

A further issue is the lack of information associated international aspects of interworking and interoperability, as [ITU-T F.930] acknowledges that a number of issues that require further study. [ITU-T F.930] adds no value with respect to the assignment of NNAI resources (global or national) in this regard.

The description of the relay services in relation to aspects of technology also raises some questions and issues. The description of the dialling associated with the public switched telephone network (PSTN) is not clear, and the reference to a prefix is, from an NNAI perspective, limited. It is not clear whether such a prefix would extend to the other types of text relay services that are identified.

The association of voice relay with IP networks, opens the door for consideration of over the top (OTT) services. Although there is no direct mention of the use of telephone numbers, the reference to a telephone number mapping (ENUM) database, setting aside for the moment the issues that the text raises, implies an association of a telephone number with an IP address, and of an OTT implementation. The existence of OTT services is a very sensitive issue and there are studies underway in ITU-T SG2 to fully understand the implications of assigning NNAI resources to such an implementation. The concern has to be that if an implementation of a text relay service utilises IP technology that it sets the precedent that ITU-T SG2 would not be able to reject to other applications.

The existence and implications for OTT services are further developed in [ITU-T F.930] with reference to telephone numbers for PSTN, VoIP or IMS. The potential for the deployment of text relay services in certain circumstances as the basis for supporting the deployment of this technology must address the the concerns of Member States.

As to the implementation aspects associated with ENUM. The reference to the database does not make clear what type of ENUM, which database and how it would be administered. This will require further work and possible be revised as a result of the current work in ITU-T SG2 related to ENUM.

Other issues that are included in the text of [ITU-T F.930] that are not complete include the procedures for establishing the call. The procedures that are defined do not cover, in sufficient detail, the operation that a user could have with the terminals that are identified. One procedure, tear down, is not defined. In the text relay models that are used there is no guidance as to the calling line identity that would be utilised in some aspects of the text relay call, nor the implications of the CLI used on the entities involved.

The use of the text relay service to access emergency services is not properly defined, and raises questions over how such calls would be handled by the communication assistant. There is no consideration on how such calls would be identified as emergency calls as compared to other calls

utilising the text relay capabilities, nor of the potential impact of calls using other access mechanisms, such as emergency in car calling on the text relay and access to the emergency services. There are variations between national implementations of emergency services that are not analysed or described in [ITU-T F.930] as to how the interaction would occur. For ITU-T SG2 the relationship between the national only number that exists and any national or global number that may be allocated to a text relay or related service is an area that would require further analysis.

The requirement within [ITU-T F.930] for registration of the user's number has fundamental issues, not least in assuming that there is a national requirement for such registration. Under some national legislation such an approach could be perceived as discriminatory. The relationship between the elements of the implementation that are contained within [ITU-T F.930] is not explained. The automatic routing of calls to the text relay service, whilst a requirement within the text, is not developed further to explain how such automatic routing is achieved.

Although [ITU-T F.930] starts with a useful description of types of text relay services, which may serve as the basis of some further detailed description of service offerings, the Recommendation does not deliver on the detail. This lack of detail on the implementation of text relays in various other aspects of relay services will require further discussion to assist implementation.

If text relay services are the basis of the use cases that are being cited as justification for the assignment of global resources then significantly more service definition will be needed to allow an assessment to be made as to whether or not requests for global resources can be justified.

- Annex A [Initial presentation to NCT on September 5, 2017: Country Code to Promote Digital Access for Seniors and Persons with Disabilities](#) (G3ict – Global Initiative for Inclusive Information and Communication Technologies , World's Global Telecom)
- Annex B Updated V.2 [Presentation](#) for SG2 on Country Code to Promote Digital Access for Seniors and Persons with Disabilities – November 2017 (G3ict – Global Initiative for Inclusive Information and Communication Technologies, World's Global Telecom)
- Annex C Application for Country Code 887 for Persons with Disabilities G3ict
- Annex D WGT ITU-T [Application](#) SG2 E164-E212 with letter to TSB Director
- Annex E [Background](#) on G3ict request for a country code (Notes of Conference Call 5 September 2017)
- Annex F [Request for E.212 shared MCC and MNC, E.164 global number resources and E.164 resources for an international trial](#) (WGT)
- Annex G [Brief 5-page-description of service – Global Mobile Bot-Assisted Conference with Text-to-Voice-to-Text PLMN/PSTN for People with Disabilities – Annex to Application C80 – WGT'S Request for global number resources](#) (WGT)
- Annex H [Presentation](#) for SG2-C80
- Annex I [Proposal for draft new Recommendation E.disab](#) (WGT)
- Annex J [WGT Progress report](#) (WGT)
- Annex K [Letter](#) from WGT on the number length of the assigned resources for their trial
- Annex L [Opening a new Country Code for services supporting people with disabilities](#) (Phonegroup SA)
- Annex M [Special services for persons with disabilities](#) (International Center for Disability resources on the Internet)
- Annex N [Introduction to Telecommunications Relay Services *Before and After Its Beginnings* for persons with disabilities and specific needs in text communication and sign language](#) (International Center for Disability resources on the Internet)
- Annex O [Report on trials of services for people with disabilities](#) (WGT)
- Annex P [Proposal for draft new Recommendation E.disab](#) (WGT)
- Annex Q [Opening a new country code for persons with disabilities](#) (WGT)
- Annex R [Proposed new work item on Analysis of Recommendation ITU-T F.930 Multimedia Telecommunication Relay Services](#) (UK)
- Annex S [Communication](#) received by the Secretary-General of ITU on Special Services for Person with Disabilities
- Annex T [Communication](#) received by the TSB Director from the World's Global Telecom (WGT) entitled "Trials on +991 trial E.164 code
- Annex U [Proposal on way forward to accelerate re-defining of country code +888 as shared humanitarian global country code and to enable preliminary global humanitarian network planning for services for people with disabilities with sub-codes under +888](#) (WGT)
- Annex V [Proposed new work item: Recommendation ITU T E.1110-Humanitarian on "Humanitarian Global Networks and Services – Numbering, Addressing and Identifiers for](#)

networks and diverse global services for humanitarian and social needs", for humanitarian country code +888 and its sub-codes. (WGT)

Annex W Proposal to amend E.1110: Allocation and assignment of ITU-T E.164 country code 888 (WGT)

Annex X Proposal of amendments related to humanitarian nature of the country code towards Working Item SG2-TD641 – Draft new Recommendation ITU-T E.disab – Specification of an international numbering resource for use in the provisioning of services for persons with disabilities (WGT)

Annex Y Approach towards the assignment of a numbering resource for Humanitarian services (UK)

Annex Z Draft Technical Report on rationale for assignment and operation specifics for use of international numbering resources (i.e. global E.164 country code) for services of a humanitarian nature for people with disabilities and specific needs (WGT)

Annex AA Subscriber number life cycle and subscriber management processes of GLEOSS Initiative on humanitarian international numbering resources (Clarification by WGT) (WGT)

Annex AB Proposal to approve creation of a new humanitarian country code for disability related services, move draft new recommendation E.disab for finalizing review and adoption, and to issue an ITU-T communication on this matter (WGT)

Annex AC Issues associated with assignment of a code for humanitarian purposes (UK)

Annex AD Communication received on "Humanitarian global country code and GLEOSS Initiative for people with disabilities" (WGT)

Annex AE Q1/2 Rapporteur's comments on WGT letter (Q1/2 Rapporteur)
