|  |  |  |  |
| --- | --- | --- | --- |
|  | INTERNATIONAL TELECOMMUNICATION UNION  **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2022-2024 | | TSAG-TD461 |
| TSAG |
| Original: English |
| **Question(s):** | | N/A | Geneva, 22-26 January 2024 |
| **TD** | | | |
| **Source:** | | Ad hoc convenor | |
| **Title:** | | Chair’s report of SG2/SG11 informal ad-hoc meeting on Q.TSCA (virtual, 9 January 2024) | |
| **Contact:** | | Phil Rushton ITU-T SG2 Chair UK | Tel: +44 20 3286 3085 E-mail: [philrushton@rcc-uk.uk](mailto:philrushton@rcc-uk.uk) |

|  |  |
| --- | --- |
| **Abstract:** | This TD contains a report of an informal ad-hoc e-meeting between experts of ITU‑T SG2 and SG11 on Q.TSCA, held on 9 January 2024. Action requested by TSAG is identified. |

**Action for TSAG**

TSAG is invited to:

1) Note this report.

3) Send a Liaison Statement to SG17 (copied to SG2 and SG11) advising them of the security issues raised in this meeting.

**Introduction**

An informal ad-hoc meeting between the experts of ITU-T SG2 and SG11 was held on 9 January 2024. The meeting was the result of the latest liaison statement sent from ITU-SG2 to SG11 (SG2‑LS90 ([SG11-TD110/WP1](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG11-240207-TD-WP1-0110))) in relation to Q.TSCA and in which such an informal ad-hoc meeting was proposed. SG2 experts are of the view that certain aspects of Q.TSCA, specifically on the specification and operation of the registration authority, should be undertaken by ITU-T SG2.

The ad hoc meeting was chaired by Phil Rushton (Chair ITU-T SG2). As the meeting was informal, the report is a chair’s report.

The meeting was well attended by experts of both study groups. The list of participants is contained in Annex A to this TD.

**Discussion**

The agenda as presented in Annex B was agreed, with one change, to address next steps under AoB.

The chair reviewed the exchange of liaisons that had occurred between ITU-T SG2 and SG11. The first, from SG11, identified the initiation of the work item and text of draft Recommendation ITU-T Q.TSCA. The response from SG2 was that the work item fell under the remit of SG2, and the work item should be transferred to SG2. The third, from SG11 provided an update of the text of draft Recommendation ITU-T Q.TSCA. In its response SG2, re-iterated both the request it had made in the earlier exchange and proposed a meeting to understand the most appropriate role of SG2.

The scope of draft Recommendation ITU-T Q.TSCA was discussed. As part of the introduction to the discussion of the scope it was stated that similar techniques that have currently been deployed and that use digital certificates exist. The example of STIR/SHAKEN was given, and it was stated that this was for use for the VoIP services/calls.

The role of SG11 in this area was stated as being focussed on legacy networks. Within such a specific area, the means by which digital certificates are to be used (ITU-T Q.3057, ITU-T Q.3062, ITU-T Q.3063, Amd.2 to ITU-T Q.931, Amd.6 to ITU-T Q1902.3, Amd.7 to ITU-T Q.763) were claimed to be fully compatible with existing implementations. More details about SG11 outcomes and current activities on this subject matter are available at: <https://itu.int/go/SIG-SECURITY>.

The point was made that there were multiple levels of security, and therefore, digital certificates that would be needed. For example, the security of telephony in general, in access and in individual calls were cited as areas where security and digital certificates would be required.

It was stated that draft Recommendation ITU-T Q.TSCA was started as a continuation of the Q.series that SG11 developed on signalling security. It defines the procedure on how to assign digital certificates to be used in the signalling exchange which may guarantee the trustworthiness of the sender/caller. The draft Recommendation specifies generic rules and does not identify authority (e.g. SG11 or ITU itself) to deal with the issuance of digital certificates. Reference was made to the use of digital certificates as specified in Recommendation ITU-T X.509, and the question was asked then would not the ITU-T X.660 series of ITU-T Recommendations be relevant.

The work in TSAG on the supplement for registration authorities was identified. It was noted that this is work in progress and will be further discussed at the next TSAG meeting (Geneva, 22-26 January 2024).

Draft Recommendation ITU-T Q.TSCA was deemed to cover at least two broad areas:

* + Technical aspects, e.g. requirements for the digital certificates assignment to be used by Trusted Signalling Certification Authority (TSCA), which is SG11 area of study, X.509, which are essentially the same as those already being considered in non-telecom contexts and was under the remit of SG17.
  + Operational aspects, mainly the processes related to issuing digital certificates, which is a SG2 responsibility.

It was also noted that different digital certificates would be required to meet the various situations in which they are and could be used. The reason for digital certificates and the governance by which they are issued does vary. It was stated that in the US, there is regulation associated with the policies of the ability to get digital certificates. Other jurisdictions have their own policies. Examples of the different types of entities who would use digital certificates include a service provider or a call originator.

In response to questions concerning the framework, the provision for digital certificates in SS7 (signalling system 7) especially given the move to IP networks, the ability to assert CLI and the rationale for draft Recommendation ITU-T Q.TSCA, it was stated that there is a perceived need for this Recommendation in some developing countries, particularly since their legacy systems comprise SS7 networks that may not be enhanced by IP networks in the near future. STIR/SHAKEN is IP only, whereas Q.TSCA is applicable in both network architectures.

During the discussion on the perceived need for draft Recommendation ITU-T Q.TSCA, for security, particularly for digital finance, within SS7 was identified. This would appear to have implications for SG17. It was stated that there had been an informal meeting between SG11 and SG17.

The point was raised as to who should be responsible for defining the procedure for assigning digital certificates. It was asserted the need for clarity, consistency and transparency when issuing digital certificates, since this activity is not limited to those aspects covered by Q.TSCA. There is a need for one focal point who has the expertise to undertake the responsibility for providing the required clarity over the process of the whole lifecycle of digital certificates, including potential reclamation (or other end state) of issued digital certificates. The lack of clarity of the process needs to be addressed as does the number of digital certificates that might be required.

Based on the [SG11-LS138](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=29706), SG11 highlighted that in 1999 SG11 developed operational procedures related to signalling such as assignment of [International Signalling Point Code](https://www.itu.int/net/itu-t/inrdb/secured/q708ispc.aspx) (ISPC), [ITU-T Q.708](https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=4591). SG11 also noted the operational procedure on assignment of ITU-T T.35 terminal provider codes, which was developed by ITU-T SG16 in 2000 (see [ITU-T T.35](https://www.itu.int/rec/T-REC-T.35)).

The question remains open: which aspects of this work belong in SG2, SG11, SG17 and TSAG?

It was stated that SG11 has received the latest LS from SG2, but the experts did not yet meet to discuss. The group will discuss the LS and issues raised during this ad hoc meeting at the WP1/11 meeting on 7 February 2024 before preparing a reply LS from SG11.

**Proposed Next Steps**

1) SG2 to consider general aspects of issuing certificates (see X.509, X.660).

2) SG17 looks at security aspects.

3) TSAG’s work on Suppl.RA should be considered.

4) TSAG to send a LS to SG17 (copied to SG2 and SG11) advising them of the security issues raised in this meeting.

5) Assess whether there is a need for coordination of work in the E-, Q- and X-series of Recommendations.

6) Meeting notes to be circulated to SG2 and SG11 experts and submitted to TSAG.

Annex A – Informal SG2/SG11 ad-hoc  
List of Participants

Total of Participants : 28

| **Name** | **Entity** | **Country** |
| --- | --- | --- |
| Mr. ANSHUL KUMAR GUPTA | Ministry of Communications | India |
| Mr. Assaf Klinger | Vaulto Communication Technologies Ltd. | Israel |
| Mr. Cheng Li | Ministry of Industry and Information Technology (MIIT) | China |
| Mr. Chris Wendt | SomosGov Inc. | United States |
| Mr. DENIS ANDREEV | International Telecommunication Union | Switzerland |
| Mr. Einar Bohlin | American Registry for Internet Numbers (ARIN) | United States |
| Mr. Joakim Stralmark | Swedish Post and Telecom Authority (PTS) | Sweden |
| Mr. Joel Bernstein | SomosGov Inc. | United States |
| Mr. Kenji Kuramochi | Comisión Nacional de Telecomunicaciones (CONATEL) | Paraguay |
| Mr. Kofi Ntim Yeboah-Kordieh | National Communications Authority (NCA) | Ghana |
| Mr. Kota KODAI | International Telecommunication Union | Switzerland |
| Mr. Mihailo Obradovic | Innovation, Science and Economic Development Canada | Canada |
| Mr. Minrui Shi | China Telecommunications Corporation | China |
| Mr. Nate Davis | American Registry for Internet Numbers (ARIN) | United States |
| Mr. Olivier Dubuisson | Orange | France |
| Mr. Ousmane mbalia Camara | Ministère des Postes, des Télécommunications et de l’Economie Numérique | Guinea |
| Mr. Paulo Peres | Autoridade Nacional de Comunicações (ANACOM) | Portugal |
| Mr. Phil Rushton | Department for Science, Innovation and Technology | United Kingdom |
| Mr. Philippe Fouquart | Orange | France |
| Mr. ROBERT CLARK | International Telecommunication Union | Switzerland |
| Mr. TONY HOLMES | Department for Science, Innovation and Technology | United Kingdom |
| Mr. Uwe Baeder | Rohde & Schwarz GmbH & Co. KG | Germany |
| Mr. Vincent Affleck | Department for Science, Innovation and Technology | United Kingdom |
| Mr. Yaw Boamah Baafi | National Communications Authority (NCA) | Ghana |
| Ms. Elizabeth Greenberg | Office of Communications – Ofcom | United Kingdom |
| Ms. Joumana BILANI | International Telecommunication Union | Switzerland |
| Ms. Mariko Honda | Nippon Telegraph and Telephone Corporation (NTT) | Japan |
| Ms. Xiaojie Zhu | China Telecommunications Corporation | China |

.

Annex B – Agenda

**Draft Agenda of informal ad-hoc of SG2 and SG11**

**Date and venue:** e-meeting, 9 January 2024 (1100-1300 hours, Geneva time)

**Objectives:**

* SG2-LS90 ([SG11-TD110/WP1](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG11-240207-TD-WP1-0110)): LS/r on the new work item ITU-T Q.TSCA which defines procedure for issuing digital certificates for signalling security (SG11-LS62) [from ITU-T SG2]
* Overview of SG11 activities on signalling security;
* Status and brief overview of the draft Recommendation Q.TSCA: Procedure for issuing digital certificates for signalling security;
* Discussion on the applicability of the draft Recommendation Q.TSCA
* AOB

**Documents (ITU IFA/FTP)**

<https://www.itu.int/ifa/t/2022/sg11/exchange/Joints/SG11-SG2-adhoc-QTSCA-SG2-LS90-Jan24/>

*Note: it is open for SG2 and SG11 experts. Deadline for inputs is 6 January 2024.*

**Remote connection**

Via ITU MyMeetings platform: <https://remote.itu.int/>

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_