**SA WG2 Meeting #168 S2-250xxxx**

**07 - 11 April, 2025, Goteborg**

**Source: Moderator**

**Title: Discussion on work areas of 6G SA2 study**

**Document for: Discussion**

**Agenda Item: 30.7**

**Work Item / Release: Rel-20**

*Abstract of the contribution:* *This paper discuss the work areas of 6G SA2 study.*

# 1 Discussion

Several input papers on the technique areas of 6G are submitted into SA2#168 and a summary is provided in the following link.

<https://www.3gpp.org/ftp/tsg_sa/WG2_Arch/TSGS2_168_Goteborg_2025-04/INBOX/DRAFTS/6G%20SID/6G%20Input%20Summary%20v2.xlsx>

Based on the input paper the moderator generates an initial set of work areas for SA2 6G study. It is proposed to discuss the initial set of work areas and figure out the contentious aspects that need further NWM discussion, and identify any missing aspects.

NWM discussion on the 6G SID is expected after SA2#168, from Apr. 15(Tue)-18(Fri), 2025. After the NWM discussion the moderator will provide a summary and a proposal of 6G SID for SA2#169 meeting.

The proposed initial set of work areas are following:

**/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Start \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/**

This study aims to define a new system architecture for 6G mobile networks for improvement of existing services and support of new services. The 6G system architecture shall support new RATs, non 3GPP access types and minimize access dependencies.

The expected work areas will include:

1. Investigating architectural requirements, assumptions and principles for 6G system.

2. Targeting a standalone architecture including at least the following aspects:

- Study and identify functionalities, NFs etc. that use 5GC as basis and any potential enhancements.

- Study and identify functionalities, NFs etc. that are redesigned without backward compatibility, e.g.

- NAS aspects to improve the message delivery efficiency

- Network slicing to reduce the complexity in both UE and network

- Common framework for all non 3GPP accesses (including WIFI, Fixed broadband access)

- etc.

3. Migration and interworking with legacy system (at least including 5G)

4. Unified Data framework for all data handling including data collection, distribution, processing, storage and exposure, for independent scalable deployment of new services.

5. Native AI design including both NET4AI and AI4NET to support new services and improve the network efficiency and performance.

6. AI Agent communication including identification, authorization, communication management, etc.

7. Efficient interaction between local networks, and between local network and PLMN network to meet the vertical requirements.

8. Integrated communication and computing framework including the following aspects:

- Coordination among UE, core network and applications for offloading traffic

- Exposure framework enhancement to support computing services

9. Common framework for all modes of integration of sensing and communication.

10. Common user consent framework to improve the user privacy protection.

11. Integration of TN and NTN to support ubiquitous connectivity.

12 IMS architecture enhancement (including simplification) to support legacy services and new services, e.g. voice, immersive communication, multi-modal communication, etc.

NOTE 1: The final set of work areas will be further updated to aligned with the SA1 SI progress

NOTE 2: The details of the work area and the dependency between work areas will be discussed and determined during the study.

NOTE 3: Overlapping between R20 5GA and R20 6G studies shall be avoided

The complete or partial conclusions of this study will form the basis for the normative work and/or for any further study.

During the study, the result of FS\_6G-REQ work and FS\_6G\_RAN\_Scen\_Req work should be taken into account.

The study shall follow the principles endorsed in SP-25340 at TSG SA#107(Mar 2025) to create a lean and streamlined standards for 6G, e.g., by dimensioning an appropriate set of functionalities, minimizing the adoption of multiple options for the same functionality, avoiding excessive configurations, etc

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