**SA WG2 Meeting #169 S2-250xxxx**

**19 - 23 May, 2025, Fukuoka, Japan**

**Source: Moderator**

**Title: Summary of NWM discussion on 6G work areas**

**Document for: Discussion**

**Agenda Item: 30.7**

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

*Abstract of the contribution:* *This is the summary of the NWM discussion on 6G work areas*

# 1 Discussion

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## 2.1 System architecture requirement, principle and assumption

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Investigating architectural requirements, assumptions and principles for 6G system |

**Total comments: 44**

**Support it as separated working area: 25**

China Mobile Com. Corporation, Cisco Systems, Rakuten Mobile, NIST, Ofinno, ETRI, ZTE Corporation, Nokia Germany, TELECOM ITALIA S.p.A., TNO [KPN], Orange, VODAFONE Group Plc, Boost Mobile Network, Futurewei Technologies, vivo Mobile Communication Co., CATT, China Telecom Corporation Ltd., T-Mobile USA, Motorola Mobility Germany GmbH [Lenovo], Charter Communications, Rogers Communications Canada, CableLabs, Ericsson LM, Verizon UK Ltd, Apple Distribution Intl Ltd,

**Not support it as separated work area: 19**

Qualcomm Germany, AT&T, LG Electronics France, MediaTek Inc., ViaSat Satellite Holdings Ltd, Samsung R&D Institute UK, OPPO Beijing, Tejas Network Limited, Deutsche Telekom AG, Intel Deutschland GmbH, China Unicom, Google Ireland Limited, NEC Corporation, Philips International B.V., BT plc, DOCOMO Communications Lab., Huawei Technologies France, EchoStar, NOVAMINT,

**Moderator Summary:**

Most of the companies agrees it is useful to spend limited time to discuss and agree the architecture requirement/principles to guide the further work in SA2. However this will not lead to a separated key issue, and may be updated based on the progress of the whole study. Some companies propose to agree an initial set of architecture requirement/principles in the SID.

## 2.2 System Architecture

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study the overall architecture to support 6G RAN, taking into account the work done in the other work areas. This includes at least the following aspects:   * Study and identify functionalities, NFs etc. that use 5GC NFs as basis and any enhancements. * Study and identify functionalities, NFs etc. that need further study and that may be redesigned * Study and identify new functionalities, NFs etc. to be added for supporting new features   Study how to achieve a harmonized RAN and CN functionality split, e.g. to avoid duplication of functionality in 6G RAN and Core, while delivering a high performance system. |

**Total comments: 47**

**Support it as separated working area: 47**

Qualcomm Germany, China Mobile Com. Corporation, AT&T, Cisco Systems, Rakuten Mobile, NIST, Ofinno, ETRI, LG Electronics France, ZTE Corporation, MediaTek Inc., Nokia Germany, TELECOM ITALIA S.p.A., Samsung R&D Institute UK, TNO [KPN], Orange, OPPO Beijing, Tejas Network Limited, VODAFONE Group Plc, Boost Mobile Network, Intel Deutschland GmbH, Futurewei Technologies, vivo Mobile Communication Co., China Unicom, Google Ireland Limited, NEC Corporation, CATT, China Telecom Corporation Ltd., SK Telecom, Philips International B.V., DOCOMO Communications Lab., Beijing Xiaomi Software Tech, T-Mobile USA, Motorola Mobility Germany GmbH [Lenovo], Charter Communications, Rogers Communications Canada, InterDigital, Huawei Technologies France, CableLabs, Deutsche Telekom AG, BT plc, CEWiT, Ericsson LM, Verizon UK Ltd, EchoStar, Apple Distribution Intl Ltd, NOVAMINT,

**Not support it as separated work area: 0**

**Moderator Summary:**

All companies agrees this is the most important work area. There are several comments and different rewording proposal on the existing bullets. Some companies also propose to merge other work areas into this work area. Some companies emphasize that the 6G system architecture should not limit to 6G RAN only.

The main divergence is whether this work area can be studied as a standalone work area, or is a placeholder to consolidate the conclusions of other work areas into an overall architecture. If it is a standalone work area then what aspects should be studied first and how to handle other work areas which have dependency on this work area.

## 2.3 Migration and interworking

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study all aspects on migration and interworking for 6GS, including at least the following   * Study how to interwork 6GS with legacy systems (i.e. 5GS, and EPS.) * Study how to support migration from legacy systems (i.e. 5GS, and EPS). |

**Total comments: 45**

**Support it as separated working area: 45**

Qualcomm Germany, China Mobile Com. Corporation, Samsung R&D Institute UK, AT&T, Cisco Systems, Rakuten Mobile, Ofinno, LG Electronics France, ZTE Corporation, MediaTek Inc., Nokia Germany, TELECOM ITALIA S.p.A., TNO [KPN], Orange, OPPO Beijing, Tejas Network Limited, VODAFONE Group Plc, Boost Mobile Network, Intel Deutschland GmbH, Futurewei Technologies, vivo Mobile Communication Co., China Unicom, Google Ireland Limited, NEC Corporation, CATT, China Telecom Corporation Ltd., SK Telecom, CSCN, Philips International B.V., Deutsche Telekom AG, DOCOMO Communications Lab., Beijing Xiaomi Software Tech, T-Mobile USA, Motorola Mobility Germany GmbH [Lenovo], Charter Communications, Rogers Communications Canada, InterDigital, Huawei Technologies France, CableLabs, BT plc, Ericsson LM, Verizon UK Ltd, EchoStar,

NOVAMINT,

**Not support it as separated work area: 1**

Huawei Technologies France,

**Moderator Summary:**

All companies agrees this is an important work area.

There is agreement on not supporting interworking with 2G/3G, and different views on interworking with EPS.

This work area has dependency on the overall architecture, and other working groups (RAN WGs, SA WGs).

## 2.4 AI aspect

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study all aspects of AI in 6GS, including at least the following:   * E2E AI based framework(i.e. AI for Network, Network for AI) * Support of AI Agents |

**Total comments: 47**

**Support it as separated working area: 42**

China Mobile Com. Corporation, Tejas Network Limited, Rakuten Mobile, NIST, ETRI, LG Electronics France, ZTE Corporation, MediaTek Inc., Nokia Germany, LG Uplus, TELECOM ITALIA S.p.A., Samsung R&D Institute UK, Orange, TNO [KPN], OPPO Beijing, Boost Mobile Network, Intel Deutschland GmbH, Futurewei Technologies, China Unicom, Google Ireland Limited, NEC Corporation, CATT, China Telecom Corporation Ltd., VIVO MOBILE COMMUNICATION IBER, SK Telecom, Philips International B.V., DOCOMO Communications Lab., Beijing Xiaomi Software Tech, MATRIXX Software, T-Mobile USA, Charter Communications, Motorola Mobility Germany GmbH [Lenovo], Huawei Technologies France, InterDigital, CableLabs, Rogers Communications Canada, BT plc, CEWiT, Ericsson LM, Verizon UK Ltd, EchoStar, Apple Distribution Intl Ltd,

**Not support it as separated work area: 5**

Qualcomm Germany, AT&T, Ofinno, Deutsche Telekom AG, Oracle Corporation,

**Moderator Summary:**

Most of the companies support this work area. There are some proposals on rewording of this work area. The main comment is that this work area has dependency on the common data framework and other working groups. Specifically, the E2E AI based framework has dependency on RAN WGs, SA3 and SA5, the AI agent communication has dependency on SA1.

## 2.5 Common Data framework

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study common data framework for all aspects related to data handling including data collection, distribution, processing, storage and data access, with consideration of access control/user consent and privacy. The example of data may include data of AI and Sensing. |

**Total comments: 44**

**Support it as separated working area: 40**

Qualcomm Germany, China Mobile Com. Corporation, Samsung R&D Institute UK, Rakuten Mobile, NIST, Ofinno, ETRI, LG Electronics France, ZTE Corporation, MediaTek Inc., Nokia Germany, TELECOM ITALIA S.p.A., Orange, TNO [KPN], OPPO Beijing, Tejas Network Limited, Boost Mobile Network, Intel Deutschland GmbH, Futurewei Technologies, China Unicom, Google Ireland Limited, NEC Corporation, CATT, China Telecom Corporation Ltd., VIVO MOBILE COMMUNICATION IBER, SK Telecom, Philips International B.V., Deutsche Telekom AG, DOCOMO Communications Lab., MATRIXX Software, Beijing Xiaomi Software Tech, T-Mobile USA, Charter Communications, Motorola Mobility Germany GmbH [Lenovo], Huawei Technologies France, CableLabs, InterDigital, Oracle Corporation,

Rogers Communications Canada, CEWiT,

**Not support it as separated work area: 4**

AT&T, Ericsson LM, Verizon UK Ltd, Apple Distribution Intl Ltd,

**Moderator Summary:**

Most of the companies support this work area. There are some proposals on rewording of this work area.

There are comments that SA5 should take the lead of this work area (at least some parts, e.g. distribution, processing, storage and data access), while other companies comment that SA2 should take the lead and coordinate with SA5. Also this work area has dependency on other work areas, e.g. AI and Sensing.

## 2.6 Sensing

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study the Common framework for all sensing modes and access technologies.  NOTE: The relationship with 5GA sensing will be discussed at SA#108(Jun). |

**Total comments: 42**

**Support it as separated working area: 33**

China Mobile Com. Corporation, Ofinno, ZTE Corporation, MediaTek Inc., TELECOM ITALIA S.p.A., TNO [KPN], OPPO Beijing, Tejas Network Limited, Boost Mobile Network, Intel Deutschland GmbH, Futurewei Technologies, ETRI, NEC Corporation, CATT, China Telecom Corporation Ltd., VIVO MOBILE COMMUNICATION IBER, SK Telecom, China Unicom, Rakuten Mobile, Philips International B.V., DOCOMO Communications Lab., Beijing Xiaomi Software Tech, Charter Communications, Motorola Mobility Germany GmbH [Lenovo], NIST, Huawei Technologies France, CableLabs, InterDigital, CEWiT, Ericsson LM, Verizon UK Ltd, EchoStar, Apple Distribution Intl Ltd,

**Not support it as separated work area: 9**

Qualcomm Germany, AT&T, LG Electronics France, Nokia Germany, Samsung R&D Institute UK, Google Ireland Limited, Deutsche Telekom AG, T-Mobile USA, Rogers Communications Canada,

**Moderator Summary:**

Majority companies support this work area. The main comment is how to handle the relation between 5G-A Sensing study and 6G Sensing. There are different views however it is agreed to further check this aspect during SA#108 when R20 5G-A scope is stable. Overlapping with 5G-A ISAC needs to be avoided.

## 2.7 Computing

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study all aspects on computing in 6GS, including at least the following:   * Coordination between UE and core network for computing * Exposure framework to offer computing service to authorized (third-party) applications. |

**Total comments: 39**

**Support it as separated working area: 30**

China Mobile Com. Corporation, Rakuten Mobile, Ofinno, LG Electronics France, ZTE Corporation, MediaTek Inc., NVIDIA, LG Uplus, TELECOM ITALIA S.p.A., TNO [KPN], OPPO Beijing, NIST, Intel Deutschland GmbH, Nokia Germany, China Unicom, NEC Corporation, CATT, China Telecom Corporation Ltd., vivo Mobile Communication Co., SoftBank Corp., SK Telecom, Philips International B.V., DOCOMO Communications Lab., Motorola Mobility Germany GmbH [Lenovo], Huawei Technologies France, CableLabs, InterDigital, Verizon UK Ltd,

**Not support it as separated work area: 9**

Qualcomm Germany, AT&T, Orange, Tejas Network Limited, Google Ireland Limited, Deutsche Telekom AG, Rogers Communications Canada, Ericsson LM, Apple Distribution Intl Ltd,

Moderator Summary:

Most companies agree this is a work area, and some rewordings are proposed.

Several companies comments it has dependency on SA1, or is not part of first release. This work area may also have impacts on other work areas, such as Data Framework, AI aspects, and UP enhancements, etc. Some companies comments that computing in RAN is out of scope of this work area.

## 2.8 Distributed Autonomous Network

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study how to support distributed and simplified networking in localized deployment |

**Total comments: 26**

**Support it as separated working area: 11**

China Mobile Com. Corporation, TNO [KPN], Nokia Germany, Futurewei Technologies, NEC Corporation, CATT, China Telecom Corporation Ltd., DOCOMO Communications Lab., T-Mobile USA, CableLabs, EchoStar,

**Not support it as separated work area: 15**

Qualcomm Germany, AT&T, LG Electronics France, MediaTek Inc., Intel Deutschland GmbH, Google Ireland Limited, Deutsche Telekom AG, Philips International B.V., Beijing Xiaomi Software Tech, VODAFONE Group Plc, Motorola Mobility Germany GmbH [Lenovo], Huawei Technologies France, Ericsson LM, Verizon UK Ltd, Apple Distribution Intl Ltd,

**Moderator Summary:**

There is no majority view to support this aspect as a separated work area. The main comment is that this aspect has dependency on SA1 requirement, and need further clarifications regarding the scope and the relation to edge computing/NPN/private networks/5G VLAN/slicing

## 2.9 NAS and other UE-Core network interaction

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study support for NAS for 6G for connectivity and beyond connectivity services, including at least the following:   * how to enable the introduction of a new NAS functionality without impacting other NAS functionalities. * how to identify a minimal set of NAS functionalities that does not get impacted by additional NAS functionalities   Study how to support a common framework for operator services beyond connectivity services, over the user-plane, or via a new plane |

**Total comments: 38**

**Support it as separated working area: 35**

Qualcomm Germany, China Mobile Com. Corporation, Samsung R&D Institute UK, AT&T, Ofinno, LG Electronics France, ZTE Corporation, Rakuten Mobile, Nokia Germany, TELECOM ITALIA S.p.A., Orange, OPPO Beijing, Intel Deutschland GmbH, Futurewei Technologies, vivo Mobile Communication Co., China Unicom, NEC Corporation, CATT, China Telecom Corporation Ltd., SK Telecom, Philips International B.V., Deutsche Telekom AG, Beijing Xiaomi Software Tech, T-Mobile USA, Charter Communications, Motorola Mobility Germany GmbH [Lenovo], Huawei Technologies France, CableLabs, InterDigital, Rogers Communications Canada, BT plc, CEWiT, Ericsson LM, Verizon UK Ltd, Apple Distribution Intl Ltd,

**Not support it as separated work area: 3**

MediaTek Inc., Google Ireland Limited, VODAFONE Group Plc

**Moderator Summary:**

There is majority view to support this aspect as a separated work area. However some companies comments there is dependency on system architecture and other work groups, e.g. SA3 and CT1. On the wording, “beyond connectivity services” should be further clarified, and the scope of this work area should not be solution oriented.

## 2.10 SBA enhancement

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study any enhancement on the SBA (e.g. enhancement on NRF/SCP, extend SBI to more interfaces, etc.) |

**Total comments: 38**

**Support it as separated working area: 25**

Qualcomm Germany,

Rakuten Mobile, LG Electronics France, ZTE Corporation, Nokia Germany, Cisco Systems, Orange, Boost Mobile Network, Intel Deutschland GmbH, NEC Corporation, CATT, ETRI, China Telecom Corporation Ltd., SK Telecom, Beijing Xiaomi Software Tech, T-Mobile USA, VODAFONE Group Plc, Deutsche Telekom AG, Charter Communications, CableLabs, Oracle Corporation, BT plc, CEWiT, Ericsson LM, Verizon UK Ltd,

**Not support it as separated work area: 13**

China Mobile Com. Corporation, AT&T, MediaTek Inc., TELECOM ITALIA S.p.A., OPPO Beijing, Tejas Network Limited, Google Ireland Limited, Philips International B.V., Motorola Mobility Germany GmbH [Lenovo], Huawei Technologies France, InterDigital, Rogers Communications Canada, Apple Distribution Intl Ltd,

**Moderator Summary:**

Majority companies support this working area. There are several proposals on the scope, e.g. extending the SBI over N2 and N4, and enhance the SBI with HTTP3/QUIC, NRF/SCP enhancement, and it has tight dependency on RAN WGs/CT WGs. Several companies suggest to merge this work area into System architecture.

## 2.11 Network Slicing

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study how to support network slicing in 6G, including at least the following aspects   * How to support network slicing in 6G * Interworking and mobility with 5G system on network slicing. |

**Total comments: 38**

**Support it as separated working area: 28**

Qualcomm Germany, Ofinno, LG Electronics France, ZTE Corporation, Rakuten Mobile, Nokia Germany, Cisco Systems, TELECOM ITALIA S.p.A., Samsung R&D Institute UK, TNO [KPN], Orange, OPPO Beijing, Intel Deutschland GmbH, NEC Corporation, CATT, Sony Europe Limited, vivo Mobile Communication Co., Beijing Xiaomi Software Tech, T-Mobile USA, Charter Communications, Motorola Mobility Germany GmbH [Lenovo], CableLabs, InterDigital, Deutsche Telekom AG, BT plc, Ericsson LM, Verizon UK Ltd, Apple Distribution Intl Ltd,

**Not support it as separated work area: 10**

China Mobile Com. Corporation, AT&T, MediaTek Inc., Tejas Network Limited, Google Ireland Limited, SK Telecom, Philips International B.V., NIST, Huawei Technologies France, Oracle Corporation,

**Moderator Summary:**

There are majority view to support Network slicing as a separated work area. Some companies suggest to merge this aspect to system architecture, and interworking/migration. The main proposal is to mention that network slicing needs to be simplified in 6G, and should not bring more complexity. Backward compatible is also an important topic.

## 2.12 Network Sharing

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study how to support the network sharing in 6G, including at least the following:   * Different network sharing architectures in 6G, e.g. MOCN, INS, and new. |

**Comments received: 27**

**Support it as separated working area: 15**

Qualcomm Germany, China Unicom, LG Electronics France, ZTE Corporation, MediaTek Inc., Nokia Germany, Samsung R&D Institute UK, Boost Mobile Network, NEC Corporation, CATT, China Telecom Corporation Ltd., Rakuten Mobile, CableLabs, Ericsson LM, Verizon UK Ltd,

**Not support it as separated work area: 12**

China Mobile Com. Corporation, AT&T, OPPO Beijing, Google Ireland Limited, Philips International B.V., Beijing Xiaomi Software Tech, T-Mobile USA, VODAFONE Group Plc, Deutsche Telekom AG, Motorola Mobility Germany GmbH [Lenovo], Huawei Technologies France, Apple Distribution Intl Ltd,

**Moderator Summary:**

There are no majority view to support network sharing as a separated work area. Most companies agree to reuse existing 5G network sharing(e.g. ultiple PLMNs support in RAN/CN/UE, MOCN, Indirect sharing,\nRAN sharing). Any new network sharing has dependency on SA1 requirement.

## 2.13 User plane architecture

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study the need for any enhancement on the user plane architecture, including at least the following:   * Study more flexible, efficient UP handling |

**Comments received: 37**

**Support it as separated working area: 24**

Cisco Systems, Ofinno, Nokia Germany, OPPO Beijing, Deutsche Telekom AG, Intel Deutschland GmbH,Futurewei Technologies, Google Ireland Limited, NEC Corporation, CATT, ETRI, China Telecom Corporation Ltd., SK Telecom, vivo Mobile Communication Co., Beijing Xiaomi Software Tech, T-Mobile USA, Charter Communications, Huawei Technologies France, CableLabs, BT plc, InterDigital, CEWiT, Verizon UK Ltd, Apple Distribution Intl Ltd,

**Not support it as separated work area: 13**

Qualcomm Germany, China Mobile Com. Corporation, AT&T, LG Electronics France, ZTE Corporation, MediaTek Inc., TNO [KPN], Orange, Tejas Network Limited, Rakuten Mobile, Philips International B.V., Motorola Mobility Germany GmbH [Lenovo], Ericsson LM,

**Moderator Summary:**

Most companies support this working area. Some companies suggest to merge it into system architecture. There are some proposals to study a flexible, efficient and simplified UP architecture using SRv6/SBI, etc., or reuse existing user plane architecture (GTP-U based) as much as possible. This work area has dependency on other work areas such as system architecture, QoS framework, Common Data framework etc.

## 2.14 QoS framework

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study any enhancement on QoS framework, including at least the following:   * Extend QoS framework to support of new services * Content awareness, elastic and agilely adaptive QoS framework |

**Comments received: 35**

**Support it as separated working area: 19**

LG Electronics France, MediaTek Inc., Nokia Germany, TELECOM ITALIA S.p.A.,Samsung R&D Institute UK, OPPO Beijing, NEC Corporation, CATT, China Telecom Corporation Ltd., vivo Mobile Communication Co., Philips International B.V., Beijing Xiaomi Software Tech, T-Mobile USA, Charter Communications, CableLabs, InterDigital, BT plc, CEWiT, Verizon UK Ltd,

**Not support it as separated work area: 16**

Qualcomm Germany, China Mobile Com. Corporation, AT&T, ZTE Corporation, ViaSat Satellite Holdings Ltd, TNO [KPN], Tejas Network Limited, Intel Deutschland GmbH, Google Ireland Limited, SK Telecom, Sony Europe Limited, Deutsche Telekom AG, VODAFONE Group Plc, Huawei Technologies France, Ericsson LM, Apple Distribution Intl Ltd,

**Moderator Summary:**

There is no majority view to support QoS framework as separated work area. Some companies propose to merge it into other work areas, such as system architecture, user plane enhancement etc, and discuss QoS enhancement to support beyond communication services. Some companies request further clarification on the of 2nd bullet

## 2.15. Policy framework

|  |  |
| --- | --- |
| Work Area Description | Study enhancement on policy aspects related to UE and CN |

**Comments received: 31**

**Support it as separated working area: 12**

LG Electronics France, Nokia Germany, OPPO Beijing, Boost Mobile Network, vivo Mobile Communication Co., CATT, China Telecom Corporation Ltd., Beijing Xiaomi Software Tech, Charter Communications, CableLabs, BT plc, Verizon UK Ltd,

**Not support it as separated work area: 19**

Qualcomm Germany, China Mobile Com. Corporation, AT&T, ZTE Corporation, MediaTek Inc., TNO [KPN], Tejas Network Limited, Intel Deutschland GmbH, Google Ireland Limited, SK Telecom, Rakuten Mobile, Philips International B.V., T-Mobile USA, Deutsche Telekom AG, Motorola Mobility Germany GmbH [Lenovo], Huawei Technologies France, InterDigital, Ericsson LM, Apple Distribution Intl Ltd,

**Moderator Summary:**

There is no majority view to support policy framework as a standalone work area. Companies comment that the policy framework can be discussed as part of other work areas, such as system architecture, NAS aspect, network slicing aspect, or new services aspect, and reuse existing QoS and policy framework as much as possible.

## 2.16 IMS enhancement

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study any enhancement on the IMS architecture, including at least the following:   * IMS architecture simplification, including network elements convergence and signaling optimization. * Support for legacy service, immersive service and Intelligent RTC services communication |

**Comments received: 26**

**Support it as separated working area: 17**

Qualcomm Germany, China Mobile Com. Corporation, AT&T, China Unicom, ZTE Corporation, OPPO Beijing, vivo Mobile Communication Co., NEC Corporation, CATT, CSCN, Philips International B.V., DOCOMO Communications Lab.,T-Mobile USA, Deutsche Telekom AG, Huawei Technologies France, CEWiT, Ericsson LM,

**Not support it as separated work area: 9**

LG Electronics France, MediaTek Inc., Nokia Germany, Google Ireland Limited, VODAFONE Group Plc, Motorola Mobility Germany GmbH [Lenovo], CableLabs, Verizon UK Ltd, Apple Distribution Intl Ltd,

**Moderator summary:**

Supporting companies agree that this WA should study IMS network architecture simplification and how to support legacy service, immersive service and Intelligent RTC services communication. Other aspects are proposed to be included in this WA: seamless continuity of IMS Multimedia Telephony Service, integration with core network exposure function. Some companies think IMS architecture is access agnostic and independent of 6G architecture, and it shall not be in the scope of 6G Study.

## 2.17 Legacy service

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study how to support legacy services (e.g. voice, Messaging, location services, MPS, Mission Critical services, PWS, etc.) in 6G.  . |

**Comments received: 34**

**Support it as separated working area: 28**

Qualcomm Germany, China Mobile Com. Corporation, AT&T, LG Electronics France, China Unicom, MediaTek Inc., Nokia Germany, Samsung R&D Institute UK, TNO [KPN], OPPO Beijing, Intel Deutschland GmbH, vivo Mobile Communication Co., Google Ireland Limited, NEC Corporation, CATT, China Telecom Corporation Ltd., Rakuten Mobile, Philips International B.V., DOCOMO Communications Lab., Beijing Xiaomi Software Tech, T-Mobile USA, VODAFONE Group Plc, Deutsche Telekom AG, BT plc, Ericsson LM, Verizon UK Ltd, Apple Distribution Intl Ltd, NOVAMINT,

**Not support it as separated work area: 6**

ZTE Corporation, Tejas Network Limited, SK Telecom, Motorola Mobility Germany GmbH [Lenovo], Huawei Technologies France, CableLabs,

**Moderator summary:**

Most companies think 6G should support legacy services (e.g. voice, Messaging, location services, MPS, Mission Critical services, PWS, etc.). Some companies proposes not to take it as a separate WA, but take it as a part of the architectural requirements or system architecture.

## 2.18 Immersive service

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description |  |

**Comments received: 31**

**Support it as separated working area: 10**

Boost Mobile Network, CATT, China Telecom Corporation Ltd., vivo Mobile Communication Co., Beijing Xiaomi Software Tech, CableLabs, CEWiT, Ericsson LM, Verizon UK Ltd, EchoStar,

**Not support it as separated work area: 21**

Qualcomm Germany, China Mobile Com. Corporation, AT&T, LG Electronics France, China Unicom, MediaTek Inc., Nokia Germany, ZTE Corporation, TELECOM ITALIA S.p.A., OPPO Beijing, Intel Deutschland GmbH, Futurewei Technologies, Google Ireland Limited, NEC Corporation, SK Telecom, Philips International B.V., Deutsche Telekom AG, Motorola Mobility Germany GmbH [Lenovo], Huawei Technologies France, InterDigital, Apple Distribution Intl Ltd,

**Moderator summary:**

Most companies propose to study immersive services in 6G under other work areas, such as QoS framework and IMS enhancement; and this work area has SA1 dependency: the objectives should be based on SA1 service requirements.

## 2.19 NTN

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study how to support 6G NTN, including the following aspects:   * Support of new 6G NTN RAT * TN-NTN Service Continuity Enhancements * Support enhancement of Core Network NFs onboard satellites |

**Comments received: 44**

**Support it as separated working area: 42**

Qualcomm Germany, China Mobile Com. Corporation, AT&T, Ofinno, LG Electronics France, MediaTek Inc., ViaSat Satellite Holdings Ltd, Nokia Germany, ZTE Corporation, Tejas Network Limited, Boost Mobile Network, Intel Deutschland GmbH, Futurewei Technologies, ETRI, Google Ireland Limited, NEC Corporation, CATT, China Telecom Corporation Ltd., vivo Mobile Communication Co., SK Telecom, CSCN, Rakuten Mobile, DOCOMO Communications Lab., Philips International B.V., Beijing Xiaomi Software Tech, T-Mobile USA, THALES, Deutsche Telekom AG, CableLabs, InterDigital, NIST, BT plc, Rogers Communications Canada, CEWiT, Ericsson LM, Verizon UK Ltd, EchoStar, Airbus, NOVAMINT, Intelsat, Apple Distribution Intl Ltd, TNO [KPN],

**Not support it as separated work area: 2**

VODAFONE Group Plc, Huawei Technologies France,

**Moderator Summary:**

Most companies supported maintaining the NTN WA as a standalone work area. The first bullet received broad support, with strong dependency on RAN work identified. The second bullet also gained wide support, with proposals to include NTN-NTN service continuity and multi-orbit satellite cooperation. The third bullet was considered unnecessary by around 10 companies.

## 2.20 Non 3GPP access

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study how to support non 3GPP access (e.g., Wi-Fi, wireline) and support multi-access data connections. |

**Comments received: 35**

**Support it as separated working area: 31**

Qualcomm Germany, China Mobile Com. Corporation, AT&T, Rakuten Mobile, Ofinno, LG Electronics France, Nokia Germany, Cisco Systems, ZTE Corporation, TNO [KPN], Intel Deutschland GmbH, Futurewei Technologies, Google Ireland Limited, NEC Corporation, China Telecom Corporation Ltd., CATT, China Unicom, Philips International B.V., Beijing Xiaomi Software Tech, T-Mobile USA, Charter Communications, Deutsche Telekom AG, Motorola Mobility Germany GmbH [Lenovo], Rogers Communications Canada, CableLabs, InterDigital, BT plc, CEWiT, Ericsson LM, Verizon UK Ltd, Apple Distribution Intl Ltd,

**Not support it as separated work area: 4**

MediaTek Inc., SK Telecom, VODAFONE Group Plc, Huawei Technologies France,

**Moderator Summary:**

Most of companies support non 3GPP access as a separated work area. There are several proposals to simplify and improve the non 3GPP access support, and support of traffic steering, switching and splitting across 3GPP access and non 3GPP access. Some companies suggest to explicitly include the Wi-Fi, wireline, and Fixed Wireless Access (FWA) in the objective. Some companies suggest to focus on specific services such as voice services.

## 2.21 User consent framework

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study how to enhance User consent framework. SA2 activities and interactions on user consent/privacy framework will be coordinated with SA3 |

**Comments received: 33**

**Support it as separated working area: 14**

Ofinno, LG Electronics France, MediaTek Inc., Samsung R&D Institute UK, NEC Corporation, China Telecom Corporation Ltd., DOCOMO Communications Lab., Charter Communications, CableLabs, InterDigital, CEWiT, Ericsson LM, Verizon UK Ltd, Apple Distribution Intl Ltd,

**Not support it as separated work area: 19**

Qualcomm Germany, China Mobile Com. Corporation,

AT&T, ETRI, Nokia Germany, ZTE Corporation, vivo Mobile Communication Co., TNO [KPN], OPPO Beijing, Tejas Network Limited, Intel Deutschland GmbH, Google Ireland Limited, CATT, SK Telecom, Philips International B.V., Beijing Xiaomi Software Tech, Deutsche Telekom AG, Motorola Mobility Germany GmbH [Lenovo], Huawei Technologies France,

**Moderator Summary:**

There is no majority view on whether it should be a separate working area.

Companies that oppose this working area believe:

* It is SA3 remit, or lead by SA3. SA2 needs to wait for SA3 input.
* It shall be part of working area 2.5 (Common Data framework).

## 2.22 6G IoT

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study all aspects to support 6G IoT.  NOTE X: RAN aspects on 6G IoT depends on RAN progress |

**Comments received: 38**

**Support it as separated working area: 21**

Qualcomm Germany, AT&T, Nokia Germany, ZTE Corporation, Cisco Systems, TNO [KPN], Orange, ViaSat Satellite Holdings Ltd, Boost Mobile Network, ETRI, NEC Corporation, CATT, vivo Mobile Communication Co., Sony Europe Limited, DOCOMO Communications Lab., Beijing Xiaomi Software Tech, Philips International B.V., InterDigital, Ericsson LM, Verizon UK Ltd, EchoStar,

**Not support it as separated work area: 17**

China Mobile Com. Corporation, Ofinno, LG Electronics France, MediaTek Inc., OPPO Beijing, Tejas Network Limited, Intel Deutschland GmbH, Google Ireland Limited, China Telecom Corporation Ltd., SK Telecom, VODAFONE Group Plc, Deutsche Telekom AG, Huawei Technologies France, CableLabs, CEWiT, NOVAMINT, Apple Distribution Intl Ltd,

**Moderator Summary**:

There is no majority view to support 6G IoT as separated work area in the initial phase, since this work area has dependency of RAN progress. Other IoT features are not part of this work area.

## 2.23. System aspect for security

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Security aspects of the overall System are SA3 responsibility, SA2 activities and interactions on Security will be coordinate with the SA3.  There is no need for dedicated work area for security. |

**Comments received: 30**

**Support it as separated working area: 3**

Boost Mobile Network, BT plc, CEWiT,

**Not support it as separated work area: 27**

Qualcomm Germany, China Mobile Com. Corporation, AT&T, LG Electronics France, MediaTek Inc., ZTE Corporation, vivo Mobile Communication Co., Orange, OPPO Beijing, Nokia Germany, Tejas Network Limited, Intel Deutschland GmbH, Futurewei Technologies, Google Ireland Limited, CATT, SK Telecom, Sony Europe Limited, Beijing Xiaomi Software Tech, Charter Communications, VODAFONE Group Plc, Motorola Mobility Germany GmbH [Lenovo], Deutsche Telekom AG, Huawei Technologies France CableLabs, Ericsson LM, Verizon UK Ltd, Apple Distribution Intl Ltd,

**Moderator Summary:**

Majority view is not to have separated work area for security. SA2 can coordinate with SA3 for other work areas if needed.

## 2.24. Network Exposure

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Study a unified network exposure framework to foster API economies of scale |

**Comments received: 35**

**Support it as separated working area: 24**

AT&T, ETRI, LG Electronics France, Rakuten Mobile, MediaTek Inc., LG Uplus, ZTE Corporation, vivo Mobile Communication Co., TNO [KPN], Nokia Germany, NEC Corporation, CATT, SK Telecom, DOCOMO Communications Lab., Beijing Xiaomi Software Tech, Philips International B.V., Charter Communications, CableLabs, InterDigital, BT plc, CEWiT, Ericsson LM, Verizon UK Ltd,

Apple Distribution Intl Ltd,

**Not support it as separated work area: 11**

Qualcomm Germany, China Mobile Com. Corporation, OPPO Beijing, Tejas Network Limited, Intel Deutschland GmbH, Google Ireland Limited, Sony Europe Limited, T-Mobile USA, Motorola Mobility Germany GmbH [Lenovo], Deutsche Telekom AG, Huawei Technologies France,

**Moderator Summary:**

Most of the companies support this as work area. The work between SA2 and SA6 should be clearly split, i.e. SA6 focus on CAPIF architecture, while SA2 focus on network capability enhancement. This work area may have dependency on other work areas such as AI, Computing, common data framework, or other working groups, such as SA3, SA6, RAN WGs.

## 2.25 Sustainability and Energy Efficiency

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Sustainability and Energy Efficiency aspects will be discussed as part of architecture requirement, and has high dependency on the system architecture.  Whether to have dedicated work area will be decided during the study. |

**Comments received: 32**

**Support it as separated working area: 14**

Rakuten Mobile,

Samsung R&D Institute UK, Orange, Nokia Germany, Intel Deutschland GmbH, CATT, vivo Mobile Communication Co., SK Telecom, DOCOMO Communications Lab., T-Mobile USA, Motorola Mobility Germany GmbH [Lenovo], BT plc, CEWiT, Verizon UK Ltd,

**Not support it as separated work area: 18**

Qualcomm Germany,

China Mobile Com. Corporation, AT&T, LG Electronics France, MediaTek Inc., ZTE Corporation, TNO [KPN], OPPO Beijing, Tejas Network Limited, Deutsche Telekom AG, Google Ireland Limited, Beijing Xiaomi Software Tech, Philips International B.V., VODAFONE Group Plc, Huawei Technologies France, CableLabs, Ericsson LM, Apple Distribution Intl Ltd,

**Moderator Summary:**

Approximately half of the companies support establishing this as a dedicated work area, with several suggesting it should build upon the existing 5G energy efficiency framework. The opposing group argues that energy efficiency should be addressed as a set of principles and requirements, and integrated into ongoing architecture work rather than treated as a separate topic

## 2.26 Cloud native

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Cloud native aspects will be discussed as part of architecture requirement, and has high dependency on the system architecture.  Whether to have dedicated work area will be decided during the study. |

**Comments received: 34**

**Support it as separated working area: 8**

Rakuten Mobile, TELECOM ITALIA S.p.A., TNO [KPN], Boost Mobile Network, SK Telecom, T-Mobile USA, Verizon UK Ltd, EchoStar,

**Not support it as separated work area: 25**

Qualcomm Germany, China Mobile Com. Corporation, AT&T, LG Electronics France, MediaTek Inc. ,ZTE Corporation, OPPO Beijing, Tejas Network Limited, Nokia Germany, Intel Deutschland GmbH, Futurewei Technologies, Google Ireland Limited,China Telecom Corporation Ltd. ,CATT, Beijing Xiaomi Software Tech, Philips International B.V. ,NIST, Motorola Mobility Germany GmbH [Lenovo] , Huawei Technologies France, Deutsche Telekom AG, CableLabs, Oracle Corporation, CEWiT, Ericsson LM, Apple Distribution Intl Ltd,

**Moderator Summary:**

Most companies oppose a standalone cloud-native work area, favoring integration into existing architecture efforts, while a minority support dedicated focus to enable full cloud-native benefits like scalability and automation. Key concerns include avoiding redundancy with 5G's existing framework and maintaining implementation flexibility.

## 2.27 Robustness and Resiliency

**Moderator proposal:**

|  |  |
| --- | --- |
| Work Area Description | Robustness and Resiliency aspects will be discussed as part of architecture requirement, and has high dependency on the system architecture.  Whether to have dedicated work area will be decided during the study. |

**Comments received: 35**

**Support it as separated working area: 8**

Samsung R&D Institute UK, Orange, Nokia Germany, SK Telecom, DOCOMO Communications Lab. , T-Mobile USA, BT plc, EchoStar,

**Not support it as separated work area 27**

Qualcomm Germany, China Mobile Com. Corporation, AT&T, LG Electronics France, Rakuten Mobile, MediaTek Inc., ZTE Corporation, TELECOM ITALIA S.p.A , TNO [KPN] , OPPO Beijing, Tejas Network Limited, Intel Deutschland GmbH, Futurewei Technologies, Google Ireland Limited, CATT, Beijing Xiaomi Software Tech, Philips International B.V. , VODAFONE Group Plc, Motorola Mobility Germany GmbH [Lenovo] , Huawei Technologies France, Deutsche Telekom AG, CableLabs, Oracle Corporation, Ericsson LM, Verizon UK Ltd, Apple Distribution Intl Ltd, NOVAMINT,

**Moderator Summary:**

Most of companies don’t support it as separated work area. It can be covered by system requirement or system architecture. CT groups may also take the lead of this topic.