

Release 19 Priorities – Services & System Aspects

Orange

Outline

- Release 19/5G Advanced Considerations
- Overview of Release 19 Content: the Services & System aspects
- Summary

Release 19/5G Advanced Considerations



- 5GS Enhancements and Optimization
- Higher Performance
- Advanced Services
- Network Intelligence
- Energy Efficiency



Overall View on Rel-19 Content

S.NO.	Title	Brief Description and Key Objectives	Related Stage-1 Study/Work Item	Lead Stage-2 WG	RAN dependency	Other WG dependencies
TBD	Network Slicing Enhancement	Support of simultaneous accesses of network slices in different VPLMNs for roaming UEs to cover future use cases and deployment models	TS22.261/TR22.830/TR22.835	SA2	Maybe	SA3, SA5 (TBD)
S2-2307281	New WID on Study on Emergency Short Message Service over IMS	Enable access to emergency services through SMS <ul style="list-style-type: none"> ▪ EU regulations require that Emergency should be accessible regardless of the service used (voice, SMS, video, ...). ▪ Service requirements have been specified in Rel-18 in clause 10.11 of TS 22.101 but no time to study and specify stage-2 and stage-3 impacts during Rel-18 timeframe ▪ Necessary to complete the stage 2/3 follow-up work in Rel-19 	TS22.101 Clause 10.11 Short Message Service over IMS to emergency centre	SA2	No	CT1
TBD	Charging for LBO	Current Charging for LBO doesn't fully cover scenarios with more than two PLMNs involved. <ul style="list-style-type: none"> ▪ Solution to support charging for multiple PLMN scenarios where multiple CHFs need to be involved ▪ Risk for an operator not to be able to charge properly without the support of charging functions and interfaces between multiple PLMNs. 	Note: TR28.827 for ongoing studies in SA5	SA5	No	SA2/CT3 (TBD)



Overall View on Rel-19 Content

S.NO.	Title	Brief Description and Key Objectives	Related Stage-1 Study/Work Item	Lead Stage-2 WG	RAN dependency	Other WG dependencies
TBD	Ambient IoT	Zero / Ultra low energy devices with ambient energy harvesting (RF / solar) <ul style="list-style-type: none"> ▪ Use cases of interest for operators: <ul style="list-style-type: none"> ○ Passive tags (RFID-like): asset tracking, UE geolocation ○ Semi-passive IoT / Active IoT: low complexity sensors ▪ Key operator requirements: network control with tag & UE (authentication, billing,...) 	TR22.840	SA2	Yes	SA3, CT1, others (TBD)
TBD	XR / Metaverse	Further enhancements to support XR / Metaverse services <ul style="list-style-type: none"> ▪ Make 5GS ready to support XR/Metaverse, in particular, to ensure the interconnection between different mobile metavers service platforms and manage an e-wallet (Digital asset container) containing customer information (avatar, ID,...) to maintain security and confidentiality. ▪ Links to the work in European Commission on a European Digital Identity wallet. 	TR22.856	SA2	Yes	SA3, SA4, SA5, SA6, CT WGs (TBD)
TBD	AI/ML	Continue improving support of AI / ML Model Transfer Phase 2 (new requirements from SA1) with new use cases and potential service and performance requirements to support efficient AI/ML operations using direct device connection.	TR22.876	SA2	Maybe	SA3, SA5, SA6, CT WGs (TBD)



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S.NO.	Title	Brief Description and Key Objectives	Related Stage-1 Study/Work Item	Lead Stage-2 WG	RAN dependency	Other WG dependencies
TBD	Uncrewed Aerial Vehicles	<ul style="list-style-type: none"> ▪ Drones Detection: to enable the 5G System network to detect an UE on board a UAV without relying on subscription information or on indication provided by the UE ▪ Geofencing for Visual Line-of-Sight UAV missions: for the case where an UAV controller does not comply with airspace regulatory requirements related to VLoS operations, operators need to enable the 5G system to be aware if VLoS constraints should be applied to UAV operations, and if so, to monitor the relative positions of an aerial UE with respect to its pilot to ensure that this aerial UE complies with Line-of-Sight constraints 	TS22.261/TR22.843	SA3	Maybe (TBC)	SA3, CT WGs (TBD)
TBD	Energy Efficiency in 5G System	<ul style="list-style-type: none"> ▪ 5GS System wide support of energy efficiency/energy saving incl. 5GC (NFs and UPF), NG-RAN, and UE, OAM: 5GS procedure enhancement incl. the UE, 5GC(NFs) and NG-RAN interactions to support energy saving ▪ AI assisted EE/energy saving control: NWDAF enhancement for power saving for dynamically adjust energy saving operations to adapt to the services/applications/UE/network conditions ▪ Coordinated EE/energy saving control in UE, NG-RAN, 5GC, OAM and Services/Applications 	TS22.261/TR21.866/TR22.882	SA2	Yes	SA5, CT WGs(TBD)
TBD	Roaming Value Added Services	Use cases for Welcome SMS, Steering of Roaming (SoR) during the registration procedure and IMSI based routing to a particular core network (e.g. in a different country)	TS22.261/TR22.877	SA2	No	SA5, CT6 (TBD)



Overall View on Rel-19 Content

S.NO.	Title	Brief Description and Key Objectives	Related Stage-1 Study/Work Item	Lead Stage-2 WG	RAN dependency	Other WG dependencies
TBD	5GS Enhancements for Satellite Access	<ul style="list-style-type: none"> Regenerative generic architecture study To achieve better NTN performance, TN-NTN integration and study the impact on existing architecture Dual access/steer, TN-NTN and GSO/NGSO Enhancements on registration and mobility management to support dual NR access including satellite, e.g, to simplify the corresponding process on satellite access. GNSS independent operation: It is essential to relax the constraints on the need for a Rel-17 UE to systematically support GNSS for NTN to work. 	TR22.865	SA2	Maybe (TBC)	SA3, SA6, CT WGs (TBD)

Summary

Release 19 as the 2nd phase of 5G-A standards continue to focus on

- 5GS Enhancements and Optimization
- Higher Performance
- Advanced Services
- Network Intelligence
- Energy Efficiency

Priorities for Release 19/5G-A Services and System Aspects

- Network Slicing Enhancement
- Emergency route for SMS
- Charging for LBO
- Ambient IoT
- XR / Metaverse
- AI/ML
- Uncrewed Aerial Vehicles
- Energy Efficiency in 5G System
- Roaming Value Added Services
- 5GS Enhancements for Satellite Access