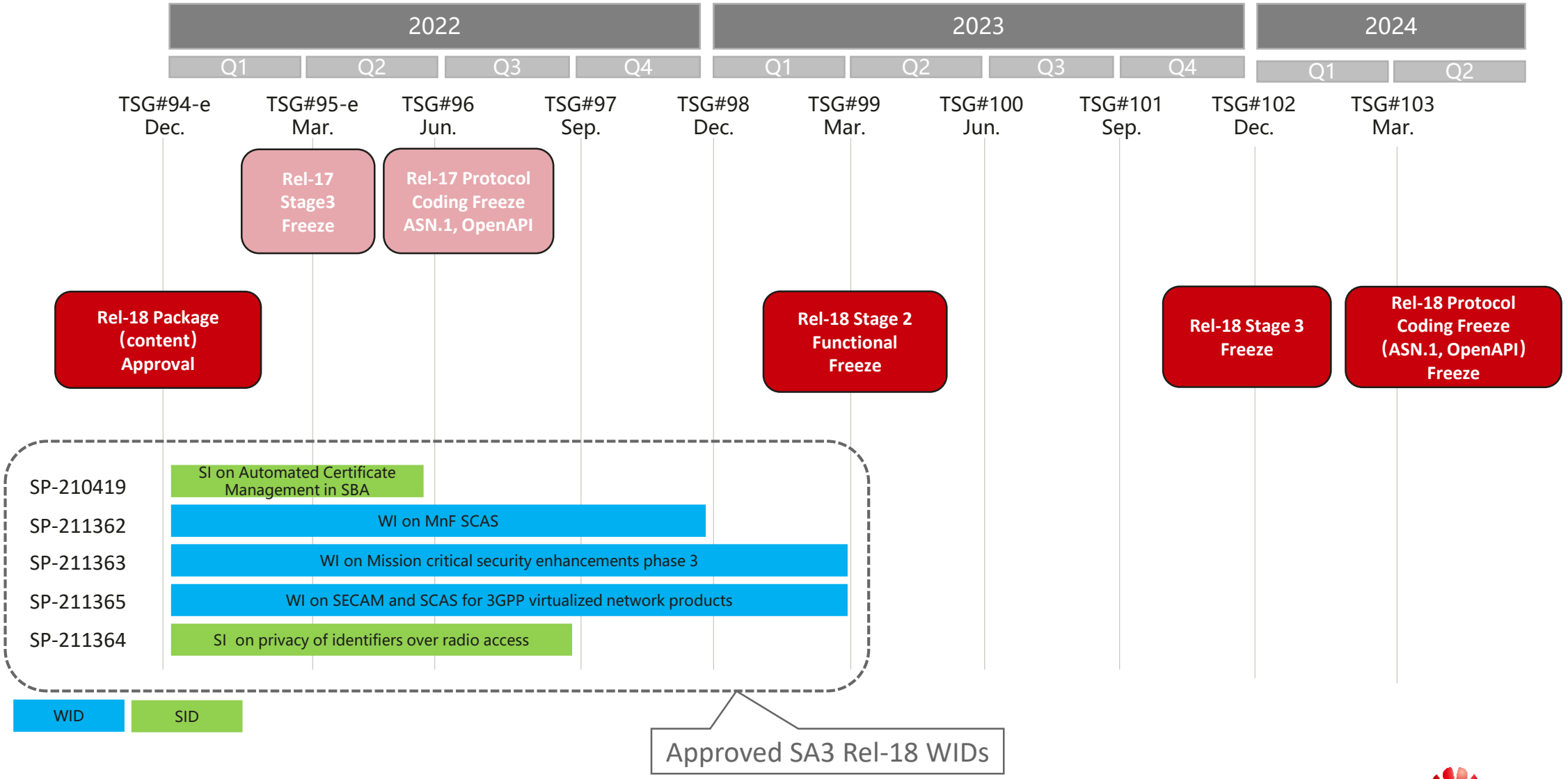
Input to SA3 Rel-18 workshop

Timeline and approved SA3 R18 WIs



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Approved SA Rel-18 package (1/2)

Acronym	Title	Latest Tdoc	SA3 impact
FS_XRM	Architecture enhancement for XR and media services	SP-211646	Y
FS_eEDGE_5GC_ph2	Enhancement of support for Edge Computing in 5G Core network - phase 2	SP-211638	Y
FS_5GAIML	5G System Support for AI/ML-based Services	SP-211648	Y
FS_eNA_Ph3	Enablers for Network Automation for 5G - phase 3	SP-211650	N
FS_eNPN_ph2	Enhanced support of Non-Public Networks phase 2	SP-211656	Y
FS_eNS_Ph3	Enhancement of Network Slicing Phase 3	SP-211641	Y
FS_eLCS_ph3	Enhancement to the 5GC LoCation Services Phase 3.	SP-211637	Y
FS_5MBS_Ph2	Architectural enhancements for 5G multicast-broadcast services Phase 2	SP-211645	Y
FS_ 5GSAT_ARCH_Ph2	5GC enhancement for satellite access Phase 2	SP-211651	Y
FS_5GSATB	Support of Satellite Backhauling in 5GS	SP-211639	Y
FS_5GTTUe	5G Timing Resiliency and TSC&URLLC enhancements	SP-211634	Y
FS_NG_RTC	System architecture for next generation real time communication services.	SP-211644	Y
FS_PIN_Arch	Personal IoT Network architecture	SP-211643	Y
FS_VMR_ARC	Architecture Enhancement for Vehicle Mounted Relays	SP-211636	Y
FS_ATSSS_Ph3	Access Traffic Steering, Switching and Splitting support in the 5G system architecture; Phase 3.	SP-211612	Y
FS_5G_ProSe_Ph2	System enhancement for Proximity based Services in 5GS - Phase 2	SP-211653	Y

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Approved SA Rel-18 package (2/2)

Acronym	Title	Latest Tdoc	SA3 impact
FS_UPEAS	UPF Enhancement for Exposure And SBA	SP-211652	N
FS_Ranging_SL_ARC	Architecture Enhancement to support Ranging based services and sidelink positioning	SP-211647	Y
FS_GMEC	Generic group management, exposure and communication enhancements	SP-211603	Y
FS_eUEPO	Enhancement of 5G UE Policy	SP-211649	Y
FS_AEUA	Further Architecture Enhancement for UAV and UAM	SP-211632	Y
FS_eAMP	Study on enhancement of 5G AM Policy	SP-211642	N
FS_ ARCH_NR_REDCAP_Ph2	Enhanced support of NR RedCap with long eDRX for RRC INACTIVE state	SP-211635	N
FS_5WWC_Ph2	5WWC, Phase 2	SP-211640	Y
FS_SFC	System Enabler for Service Function Chaining.	SP-211594	Y
FS_DetNet	Extensions to the TSC Framework to support DetNet	SP-211633	N
FS_SUECR	Seamless UE context recovery	SP-211654	N
FS_MPS_WLAN	MPS when access to EPC/5GC is WLAN	SP-211595	N

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Approved RAN Rel-18 package

Acronym	Title	Latest Tdoc	SA3 impact
FS_NR_NetConRepeater	Study on NR Network-controlled Repeaters	RP-213700	Y
NR_Mob_enh2	Further NR mobility enhancements	RP-213565	N
FS_NR_XR_enh	Study on XR Enhancements for NR	RP-213587	N
NR_SL_relay_enh	NR sidelink relay enhancements	RP-213585	Y
NR_NTN_enh	NR NTN (Non-Terrestrial Networks) enhancements	RP-213690	Y
IoT_NTN_enh	New WID on IoT NTN enhancements	RP-213596	N
NR_UAV	NR support for UAV	RP-213600	N
NR_DualTxRx_MUSIM-Core	WI on Dual Tx/Rx MUSIM	RP-213584	N
NR_IDC_Enh	New WI: In-Device Co-existence (IDC) enhancements for NR and MR-DC	RP-213589	N
NR_MT_SDT	Mobile Terminated-Small Data Transmission (MT-SDT) for NR	RP-213583	N
NR_MBS_enh	New WID: Enhancements of NR Multicast and Broadcast Services	RP-213568	N
NR_mobile_IAB	Mobile IAB	RP-213601	N
TBD	Artificial Intelligence (AI)/Machine Learning (ML) for NG-RAN	RP-213602	Y
TBD	New WID on further enhancement of data collection for SON (Self-Organising Networks)/MDT (Minimization of Drive Tests) in NR and EN-DC	RP-213553	N
NR_QoE_enh	Enhancement on NR QoE management and optimizations for diverse services	RP-213594	N
FS_gNB_CU_CP_resiliency	Study on enhancement for resiliency of gNB-CU-CP	RP-213677	N

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Expected security work

Topic	Motivation	Potential objectives
Edge	Based on SA2 and SA6 EDGE architecture enhancement: • SA2 topic: System enhancements for enhanced edge computing support • SA6 topic: enhanced architecture for enabling Edge Applications	• Study the potential enhancements to the security procedures for roaming
Real Time Communication (RTC)	Based on SA2's topic: The SA2 objective is to study the system architecture for the next generation real time communication services based on IMS enhancement requirements from stage 1.	• Study the potential enhancements to the caller authorization and authentication procedures in order to provide more assurance to the callee during call placement
Multicast and broadcast services (MBS_Ph2)	Based on SA2's architecture enhancement: • Group paging with TMGI may lead to the leakage of group info and DoS attack • Enabling UE's receiving Multicast MBS Session data in RRC Inactive state • Study whether there are any identified performance issues for high number of public safety UEs	• Study the security issues and potential enhancements to the group paging procedure • Study the key management for UEs in RRC Inactive state
Generic group management (GMEC)	Based on SA2's topic: Generic group management, exposure and communication enhancements, including group communication for a 5G VN which supports multiple SMFs.	• Study the security issues and potential enhancement to protect the traffic pertaining to LAN groups
Network slicing (FS_eNS_Ph3)	• Leftovers from R17 eNS WID re-align to the SA2 R18 objectives • Enhanced support of NSAC based on SA2's evolvement, e.g. roaming cases	• Continuation of the work on the NSAC procedure • Study the security issues and potential enhancements based on SA2 progress
Location services (FS_eLCS_ph3)	Based on SA2's objectives: • Usage of PRUs and a specific UE to improve the accuracy of positioning, and reduce the signaling • Some cases which are about the UE accesses 5G via satellite access	• Study how to authenticate and authorize the PRUs • Support network verified UE location and network controlled positioning

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Suggestions for SA3 Rel-18 handling

Deadlines

- Based on the Rel-18 timeline, SA3 must aim at Q2 2023 to complete the normative work. Therefore, it is important that all SIs are concluded by Q1 2023.
- Our preference (learning from the past):
  - Aim at Q2 2023 to finalize all WI/SIs except for issues depending on progress in other WGs.
  - Aim at Q1 2023 to finalize and close all SIs except for issues depending on progress in other WGs.
  - Aim at Q1 2023 to finalize SA3 own topics to allow progress in other WGs.

Ways of working

- Incoming LSs from other WGs must be given higher priority and treated as early as possible (as usual).
- More moderated email discussions/adhoc meeting (reduced scope) to progress contentious SI issues.
- Avoid open ended issues and requirements in SIs.
- Combine similar issues in a common SI/WI, e.g. location security, user consent, etc.

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Security assurance

Motivation

- Keep up the momentum and continue the work on SCAS including regular maintenance and coverage of newly introduced features
- Ongoing related work in other for such as GSMA preparation for the next NESAS release and EU initiative to adopt a security assurance scheme

Objectives

- Regular cleanups and error/inconsistency corrections: TR 33.926 still contains ENs, undefined abbreviations, typos, etc.
- Rel-17 features coverage
  - WID availabe in S3-214034 (not approved yet)
- MnF SCAS
  - WID approved in S3-214482/SP-211362

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Continuation of user consent work

Motivation

- R17 does not consider roaming issue, i.e. UDM and enforcement point belong to different PLMNs
- R17 may require mobility enhancement, hence there is a necessity to consider RAN impact due to user consent handling
- New features may require user consent, e.g. NTN, SNNAAP, ProSe.

Potential objectives

- Study the use cases where the enforcement point and UDM belong to different legal entity, e.g. roaming.
- Specify specific requirements (if needed) for other features and use cases such as NTN, SNNAAP, ProSe, etc.

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Home triggered authentication

Motivation

- The wrap around SoR counter needs to be resolved.
- How to refresh keys like K_{AF} needs to be resolved.
- The home network needs to build up the capability to ensure where is the UE and the current status of the UE. By this way, the home network can be involved more on the management of the UE from home network point of view.

Potential objectives

- Identify and study the use cases requiring home network triggered authentication procedure.
- Study the potential enhancements to the 5G architecture and procedure to support home network initiated authentication procedure.
- Study and assess the impacts on the serving network.

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Specification improvements (Editoral)

Motivation

- Lack of structure and homogeneity in our 5G related security specifications
- No clear separation between the actual security requirements versus the related mechanisms and procedures
- No best practises when it comes to grouping of security mechanims in new generation systems
- Prepare for the future

Objectives

- Establish best practises for security specification structure and scoping for example:
  - Requirement list in a normative annex as done in mission critical specifications
  - Separate specifications for UE-Network security mechanisms and Network-Network mechanims (ex. SBA, NDS)
  - Separate specifications for non-3GPP versus 3GPP accesses as done in 4G, etc.
- Implement the established practises on TS 33.501

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