

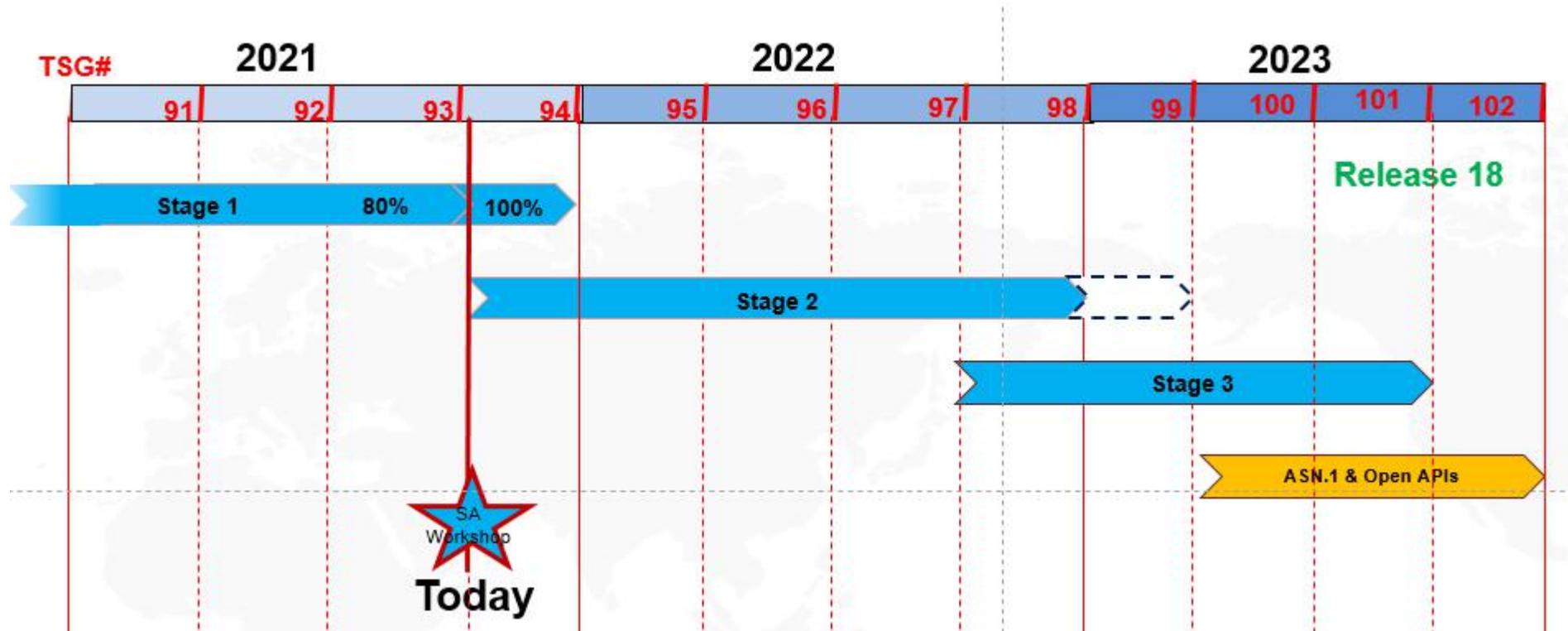
# China Telecom Views on Rel-18

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# Considerations on Rel18 Timeline



- Proposes to have 18 months for Rel-18. Affected by the Covid-19, the frozen time for stage 2 might be postponed, and stage 3 accordingly.
- Proposes to start working on TEI18/Mini WID(SA2) with related CRs in Q4 2021.

- **Observation:** 40+ SIDs had been submitted to the SA2 Aug. meeting for approval. From our points of view, the SA2 Rel-18 potential topics can be classified into 5 categories.
  - Cat. 1: Enh. for Rel-17 topic without new inputs of SA1
  - Cat. 2: Enh. for Rel-17 topic with new inputs of SA1
  - Cat. 3: New topic from new inputs of SA1
  - Cat. 4: New topic without inputs of SA1
  - Cat. 5: Early Release Deprioritized Topic
  
- **Proposal:** Case by Case Analysis for different categories.
  - Cat. 1: Analyse if it is reasonable or urgent for the enhancement. There might be limited features in the last few releases of the generation that could be deployed in commercial network, according to the practical experiments of 4G standardization.
  - Cat. 2: Similar with Cat.1, the new use cases/requirements should be evaluated carefully.
  - Cat. 3: Analyse if the requirements from SA1 is sufficient and evaluate the coordination with RAN group to avoid discoordination with RAN ( for example, network slices are only considered in core network at the beginning, not E2E network)
  - Cat. 4: Study can start, if they have explicit use cases/requirements.
  - Cat. 5: Analysis whether it is still needed to study some objectives from deprioritized SIDs.

# The list of SA2 Rel-18 Potential Topics(1/2)

## Enh. for Rel-17 topic without new inputs of SA1

- Enhancement of 5G AM policy (FS\_eAMP)
- Enablers for Network Automation for 5G and related 5GC autonomous operation (FS\_eNA\_Ph3, FS\_AOP)
- Enhancement for ProSe in 5G (FS\_5G\_ProSe\_Ph2)
- Enhancement of support for Edge Computing in 5GC (FS\_eEDGE\_5GC\_ph2)
- Enhancement for 5G multicast-broadcast services (FS\_5MBS\_Ph2)
- Study on ATSSS Phase 3 (FS\_ATSSS\_Ph3)
- Architecture Enhancement for UAV and UAM (FS\_AEUA)
- Multi-USIM (FS\_eMUSIM)

## Enh. for Rel-17 topic with new inputs of SA1\*

- Enhancement for Network Slices (FS\_eNS\_Ph3)
- Enhanced support of Non-Public Networks (FS\_eNPN\_ph2)
- Enhancement to the 5GC LoCation Services (FS\_eLCS\_ph3)
- Satellite backhauling and satellite components in 5G Architecture (FS\_5GSATB, FS\_5GSAT\_ARCH\_Ph2)

## New topic from new inputs of SA1\*

- Media/XR services (FS\_XRM)
- Study on 5G Timing Resiliency and TSC&URLLC enhancements (FS\_5GTTUe)
- Ranging-based services (FS\_5G\_Ranging)
- AI/ML-based services (FS\_5GAIML)
- Service Function Chaining (FS\_SFC)
- Personal IoT and Residential Networks architecture (FS\_PIRates\_Arch)
- Architecture Enhancement for Vehicle Mounted Relays (FS\_VMR\_ARC)
- MPS when access to EPC/5GC is WLAN (FS\_MPS\_WLAN)
- User Deployed Devices in CPN (FS\_UD\_CPN)

**Note:** The topics in red are the Rel-18 topics China Telecom interested in. The list of interested topics will be updated based on the further discussion.

\* : The mappings between SA1 R18 requirements and SA2 R18 potential topics can be found in the appendix.

## New topic without inputs of SA1

- Support for Separation and Isolation of NF and Data in 5GC (FS\_ESSIND)
- Mobile Computing Power Network (FS\_MCPN)
- Harmonized Communication and sensing service (FS\_5G\_HCS, FS\_5G\_Sensing)
- Passive IoT (FS\_Passive IoT)
- UE Aggregation (FS\_UE\_Aggregation)
- Service-based N2 (FS\_SerBN2)
- PWS over non-3GPP access (FS\_PWS\_non3GPP)
- Seamless UE context recovery (FS\_SUECR)
- Use of L4S in 5GS (5G\_L4S)
- CloT support in NTN (FS\_CIoT\_NTN)
- Generic group management and 5G LAN VN Communication (FS\_5Ggroups, FS\_5GLAN enh)

## Early Release Deprioritized Topic

- Enhancement of support for 5WWC in 5GC (FS\_5WWC\_Ph2) with potential requirements from SA1 R18
- Study on UPF enhancement for control and SBA (FS\_UPCAS)
- Generic group management and 5G LAN VN Communication (FS\_5Ggroups, FS\_5GLAN enh)
- UE policy enhancement (FS\_eUEPO)
- Next Generation Real Time Communication Services (FS\_NG\_RTC)

Note: The topics in red are the Rel-18 topics China Telecom interested in. The list of interested topics will be updated based on the further discussion.

# New R18 SID proposal from CTC: Enhancement of 5G AM policy (FS\_eAMP)



- AM Policy was introduced in R15 for non-session management related policy control. It provides the framework to support policy enforcement in Aggregated maximum bit rates, Service Area Restrictions, RFSP Index and SMF selection management.
- The policy and charging control is one of operators' highest interest in all 3GPP release.
- For R18, the following need to be studied for AM policy enhancement:
  - The mechanism for **consistency** in AM Policy parameter, i.e. RFSP Index, when UE moves between **5GC and EPC**.
  - The support of **DCAMP in roaming scenarios**
  - The support of **spending limit function changing AM policy** in roaming scenario

- This SID is based on the requirement of vertical and to fulfill the requirement that vertical can independently perform its business in the same PLMN with the operator's network.
  - Considering the deployment of the network, some features in previous release may not be realistic in the current network for the reason that the chipsets and modules are not mature enough and the market foreground is not optimistic.
  - This SID considers the actual requirements of the current network and mainly studies two scenarios.
    - Dedicated AMF, SMF and UPF are deployed at vertical.
    - Other than the dedicated AMF, SMF and UPF, UDM which only contains subscription data of users of vertical customers also deployed at vertical.
  - In above cases, the operator's network may have the same NF type as deployed on the enterprise side, but NFs of the same type deployed at different side play different roles in the PLMN, e.g. AMF deployed at operator's network mainly serves personal customers and AMF deployed at vertical mainly serve the vertical customer.

## ■ Background

- ITU has started related studies on Computing Power Network: Draft Recommendation ITU-T Y.2501 (formerly Y.CPN-arch): “Computing Power Network – framework and architecture”-for consent. Considering “...With the development of new network technologies such as 5G, computing power resources can be connected in a simple, efficient, and low-cost way, and can be sold and used through a new business model...”, we believe it is good time to trigger the computing power related study in R18.

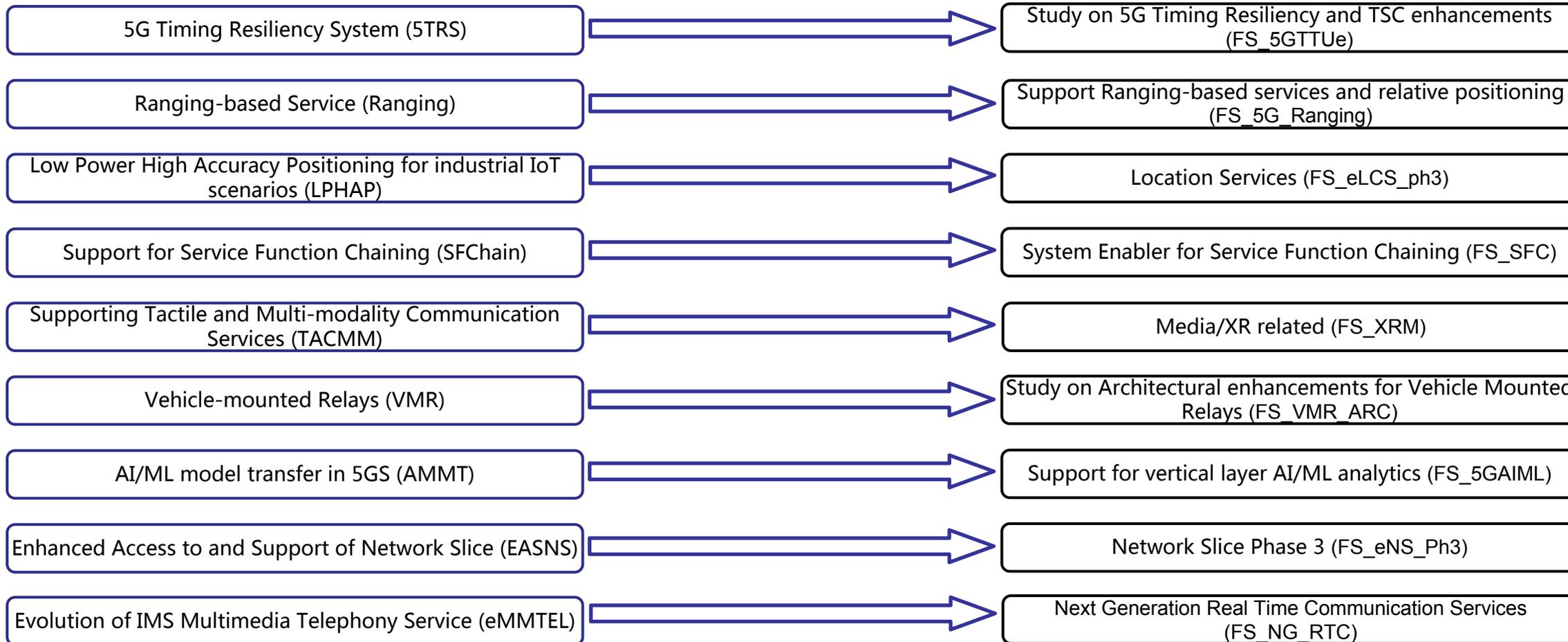
## ■ Motivation

- This study on mobile computing power network is proposed to research how to combine 5G mobile network and computing power network harmoniously, wherein:
  - Computing power nodes located in 5GS are selected for 5G users considering the service characteristics, and network conditions.
  - Easy accessibility and efficient utilization of different types of computing powers for 5G users
  - Jointly optimizing communication and computing resources for 5G user services.

- As the TUs for R18 are limited, SIDs with many objectives/TUs are encouraged to be down scoped before SA#94e and give the reasonable TU planning in SA plenary.
- SA should coordinate with RAN group, especially for the SIDs with E2E communications involved, those SIDs should have the same priority in SA and RAN.
- As R18 is the first release for 5G-Advanced, some forward-looking features could be initiated within proper scale and continued to work in further releases. In this case, planning for different phases in different releases is needed.
- Consider setting up parallel CCs with different topics to improve the e-meeting efficiency, just like the breakout sessions in F2F meeting.

# Appendix

The mappings between SA1 R18 requirements and  
SA2 R18 potential topics

**SA1 Requirements**
**SA2 Potential topics**


**SA1 Requirements**

**SA2 Potential topics**

