



Proposal on 6G Security Work Tasks

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Security Areas for 6G Security Study

6G System Security

- 📶 Authentication
- 📶 NAS Security
- 📶 AS Security
- 📶 Privacy
- 📶 Exposure Security
- 📶 Security for Architecture Enhancement
- 📶 Network Side Security
- 📶 Interworking & Migration Security

Feature-related Security

- 📶 ISAC Security
- 📶 AI Security
- 📶 Computing Security
- 📶 NTN Security
- 📶 IoT Security



Work Tasks for 6G SEC SID (system level)

WT#1: Study **authentication framework**, including

- Primary authentication for UE under TN/NTN access
- Re-authentication enhancement considering 6G security architecture
- Non-subscriber (e.g. digital identity, user, non-3GPP device) authentication

WT#2: Study **NAS security**, including




- NAS security enhancement for supporting 6G NAS (e.g. modular NAS), depending on SA2 progress
- Corresponding enhancements for NAS security in mobility cases under TN/NTN access, if needed

WT#3: Study **AS security**, including

- AS security enhancement for supporting RAN architecture changes, depending on RAN2/3 progress
- Corresponding enhancements for AS security in mobility cases under TN/NTN access, if needed
- Lower-layer security (e.g. MAC CE security)



Work Tasks for 6G SEC SID (system level)

-  **WT#4: Study overall privacy aspect, including**
 - Identity privacy enhancement considering 6G security architecture
 - Unified privacy control framework (incl. dynamic user consent, data privacy, etc.)
-  **WT#5: Study exposure security, including**
 - More finer granularity authorization for specific exposure, if needed
 - Authorization for broader north-bound exposure (e.g. RAN side exposure)
 - Enhancement for sensitive information exposure, if needed
-  **WT#6: Study security for architecture enhancement, including**
 - Security supporting the data framework, depending on SA2 progress
 - Security enhancement for user plane (e.g. E2E UP security) considering SA2 progress
 - Enhancements for legacy security procedures, if needed



Work Tasks for 6G SEC SID (system level)

WT#7: Study **network side security**, including

- Security enhancement for scaled network services in enhanced SBA, depending on SA2 progress
- Security supporting different trust domains for various network divisions, depending on SA2 progress
- Enhancement of NDS/IP security, if needed

WT#8: Study **security for interworking & migration**, including

- Security for interworking & migration between 6GS and 5GS/LTE, including security context mapping, depending on SA2 progress
- Security for dual registration between 6GS and 5GS/LTE if needed, depending on SA2 progress
- Security for dual steering between 6GS and 5GS/LTE if needed, depending on SA2 progress

NOTE: WT#7 and #8 can also be merged into WT#6.



Work Tasks for 6G SEC SID (feature level)

WT#9: Study **security for 6G ISAC**, including

- Security protection (incl. authentication, authorization, and sensing data protection)
- Privacy protection (incl. sensing object owner consent and sensing awareness for involved human)

NOTE: The scope of this WT depends on SA2 & RAN progress (e.g. UE involvement)

WT#10: Study **security for 6G AI**, including

- Security and privacy protection for 6G AI framework (incl. secure 6G AI life cycle management)
- Security and privacy protection for AI agent (e.g. secure AI agent authentication and authorization)

NOTE: The scope of this WT depends on SA2 progress (e.g. the use of the AI agent)

More 6G features

- **Security for 6G Computing** is proposed to be merged into 6G system security work tasks
- **Security for 6G NTN** is proposed to be merged into 6G system security work tasks
- **Security for 6G CIoT** is proposed to be merged into 6G system security work tasks

Work Tasks for 6G SEC SID (coordination)



Coordination across work tasks

- WT#2 may need coordination with WT#1 and WT#6
- WT#3 may need coordination with WT#2 and WT#6
- WT#4 may need coordination with WT#9 and WT#10
- WT#5 may need coordination with WT#4, WT#9, and WT#10