**3GPP TSG-SA5 Meeting #148e *S5-233250rev1***

e-meeting, 17 – 25 April 2023

**Source: Huawei, Deutsche Telekom**

**Title: Solution and conclusion for KI#10 Digital sobriety**

**Document for: Approval**

**Agenda Item: 6.9.1.2**

# 1 Decision/action requested

**Include the proposed text in TR 28.913**

# 2 References

[1] 3GPP TR 28.913: "Study on new aspects of EE for 5G networks phase 2"

# 3 Rationale

This pCR proposes to introduce a conclusion to Key Issue #10 into TR 28.913 [1].

# 4 Detailed proposal

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| **First change** |

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 28.554: " Management and orchestration; 5G end to end Key Performance Indicators (KPI)".

[3] ETSI GS NFV-IFA 027 V4.2.2 (2021-07): "Network Functions Virtualisation (NFV) Release 4; Management and Orchestration; Performance Measurements Specification".

[4] ETSI ES 202 336-12 V1.2.1 (2019-02): "Environmental Engineering (EE); Monitoring and control interface for infrastructure equipment (power, cooling and building environment systems used in telecommunication networks); Part 12: ICT equipment power, energy and environmental parameters monitoring information model".

[5] ETSI GS NFV-EVE 004 V1.1.1 (2016-03): "Network Functions Virtualisation (NFV); Virtualisation Technologies; Report on the application of Different Virtualisation Technologies in the NFV Framework".

[6] ETSI GR NFV-IFA 029 V3.3.1 (2019-11): "Network Functions Virtualisation (NFV) Release 3; Architecture; Report on the Enhancements of the NFV architecture towards "Cloud-native" and "PaaS"".

[7] 3GPP TS 38.300: "NR; NR and NG-RAN Overall Description; Stage 2".

[8] 3GPP TS 38.401: "NG-RAN; Architecture description".

[9] The Greenhouse Gas Protocol - <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>

[10] 3GPP TS 28.530: "Management and orchestration; Concepts, use cases and requirements".

[11] 3GPP TS 28.552: " Management and orchestration; 5G performance measurements".

[12] ETSI GS NFV-IFA 008 V4.3.1 (2022-05): "Management and Orchestration; Ve-Vnfm reference point - Interface and Information Model Specification".

[13] 3GPP TS 28.310: "Management and orchestration; Energy efficiency of 5G".

[14] 3GPP TS 32.551: "Energy Saving Management (ESM); Concepts and requirements".

[15] 3GPP TS 22.261: "Service requirements for the 5G system".

[16] 3GPP TS 22.289: "Mobile Communication System for Railways".

[17] 3GPP TS 22.186: "Enhancement of 3GPP support for V2X scenarios; Stage 1".

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| **First change** |

## 4.10 Key Issue #10: Digital sobriety

### 4.10.1 Description

At SA#94 (Dec. 2021), TSG SA sent out a LS to all 3GPP WGs: SP-211621 (LS on Energy Efficiency as guiding principle for new solutions), where the following was stated:

--- start of quote ---

“*The EE-specific efforts so far undertaken e.g., in SA5 have aimed mostly at improving the energy efficiency by impacting the operations of the system. As we now are starting to specify the 5G-Advanced features,* *TSG SA kindly requests the recipient WGs and TSGs to consider EE even more as a guiding principle when developing new solutions and evolving the 3GPP systems specification, in addition to the other established principles of 3GPP system design*.”

--- end of quote ---

It should be clear that the efforts requested by TSG SA to all 3GPP WGs and TSGs are to be made when specifying new features, by the integration of environmental aspects into the 3GPP Technical Specifications (TS) development process, by balancing ecological and functional, performance, QoS, etc. requirements.

Digital sobriety, in the context of this study, encompasses all design principles enabling to optimize the volume of information to be:

- processed,

- stored,

- transported

by the 3GPP system.

Optimizing the volume of information processed, stored, carried by 3GPP networks can be addressed at:

# user plane,

# control plane,

# management plane.

When it comes to ‘consider EE as a guiding principle when developing new solutions and evolving the 3GPP systems specification’, only the management plane (i.e. OA&M) is in the scope of SA5.

Though it’s well known that the management plane traffic volumes are far less than e.g. user plane ones, it is SA5 responsibility to try to optimize them anyway, from the specification phase to the operation phase.

This key issue focuses on the specification phase in 3GPP, and aims at studying where and when it is possible to minimize OA&M traffic volumes processed and/or transported and/or stored by the managed elements / functions and management functions, so as to render the 3GPP system more digitally sober.

As said above, the energy consumed by managed elements, managed functions and management functions highly depends on the volumes of information that they:

- process and/or

- store and/or

- carry.

Based on the above, this key issue aims at studying how SA5 can consider digital sobriety when specifying OA&M concepts, architectures, interfaces, APIs, Network Resource Models (NRM), etc.

NOTE: this key issue and its potential solution(s) do not aim at deriving any potential requirements for the 3GPP management system. Instead, they aim at proposing recommendations to be considered by 3GPP SA5 when developing new, or evolving existing, specifications.

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### 4.10.2 Conclusion and recommendation

There is no potential solution in this version of the document.

It is proposed to continue this work in the context of the normative phase.

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| **End of changes** |