**3GPP TSG- Meeting #**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network | **X** |

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| ***Title:*** |  | | | | | | | | | |
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| ***Source to WG:*** | , Deutsche Telekom, Nokia, ZTE | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
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| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
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| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
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| ***Reason for change:*** | | The use case and requirements for intent exploration is documented in TR 28.904 and recommended for normative work. It proposes to add use case and requirements in TS 28.312. | | | | | | | | |
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| ***Summary of change:*** | | Add use case and requirements for intent exploration in TS 28.312 in TS 28.312 based on clause 5.15 in TR 28.914. | | | | | | | | |
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| ***Consequences if not approved:*** | |  | | | | | | | | |
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| ***Clauses affected:*** | | 5.3.X (new) | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
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| ***This CR's revision history:*** | | S5-247176 is the revision of S5-246370 | | | | | | | | |

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| **1st Change** |

### 5.3.X Intent Exploration

#### 5.3.X.1 Introduction

Before the MnS consumer expresses the intent expectation to the MnS producer (i.e. intent handling function), it is challenging for the MnS consumer to assign the values for corresponding targets and contexts to be best aligned with both MnS consumer's expectation and MnS producer's capabilities. This depends on the current resource situation and capabilities of the system (availability of MnS Producer resources in certain area, time, etc.). For example, the high expectation on target value improves MnS consumer's satisfaction but may be out of MnS producer's capabilities (e.g. insufficient radio resources). In other aspect, the low expectation on target value can be achieved by MnS producer, but reduces MnS consumer's satisfaction and may not be best aligned with the MnS producer' capabilities (e.g. radio resources are not effectively used). So MnS consumer needs to find out if the expected intent expectations are realistic and best aligned with MnS producer's capability before expressing the intent expectation to MnS producer.

Especially for an intent with multiple targets, it is more challenging for MnS consumer to find out best combination of the values for multiple targets in an intent. For example, it is difficult for MnS consumer to assign the best values for rANEnergyConsumptionTarget and aveDLRANUEThptTarget in RAN Energy saving intent defined in clause 6.2.2 to optimally balance the energy consumption expectation and RAN UE throughput performance.

Based on above analysis, it is important to introduce the MnS capability to enable MnS consumer to explore the best values for intent targets and contexts within a specific intent during intent pre-evaluation phase (i.e. before MnS consumer express the intent expectation to be fulfilled) to learn more about the MnS producer's capabilities. This would allow the MnS consumer to determine the values for intent targets and contexts which are best aligned with both MnS consumer's expectation and MnS producer's capabilities. Following are the two potential scenarios for intent exploration during intent pre-evaluation phase:

**- Scenario#1:** MnS consumer requests the MnS producer to explore the best value for a given target or context in an intent with a target name or attribute name specified. The MnS consumer may specify the values for other context attributes and targets in the intent to limit the exploration result.

**- Scenario#2:** MnS consumer requests the MnS Producer to explore the best combination of the values for multiple targets or contexts in an intent with a list of target names and context attribute names specified. MnS consumer may specify the values for other context attributes and targets in the intent to limit the exploration result. It is MnS producer's decision to provide one or multiple best combination of the values which are best aligned with MnS producer's capabilities. For example, for RAN energy saving intent which includes the energy consumption target and RAN UE throughput target, MnS producer may provide two best combination values for these two targets. One provides the better energy consumption but lower RAN UE throughput, while another provides the better RAN UE throughput but the energy consumption is not good compared to the first one.

MnS producer (i.e. intent handling function) can perform simulation/evaluation activities to provide the possible values for one or multiple targets and contexts in an intent accounting for all intents applied to the expected network. The expected network will not act on the intent exploration request.

#### 5.3.X.2 Requirements

**REQ-IDMS-IntentExploration-CON-1:** The intent driven MnS producer should have the capability enabling the MnS consumer to request to explore the best value for a given target or context in an intent.

**REQ- IDMS-IntentExploration-CON-2:** The intent driven MnS producer should have the capability to explore the best combination of the values for multiple targets or contexts in an intent.

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| **End of Changes** |