**3GPP TSG- Meeting #**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *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 | | | | | | | | | |
| ***Source to TSG:*** | SA5 | | | | | | | | | |
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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 cases of “Measurement data correlation analytics for ML training” have been discussed and agreed upon in the study (clause 5.3.2 in TR 28.866). This CR is to normatively propose the use cases and requirements. | | | | | | | | |
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| ***Summary of change:*** | | Adding the use cases description and requirements | | | | | | | | |
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| ***Consequences if not approved:*** | | No requirements for the use cases. | | | | | | | | |
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| ***Clauses affected:*** | | 7.2.x (new clauses added) | | | | | | | | |
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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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Revision of S5-246733 | | | | | | | | |

***Start of First change***

### 7.2.x Correlation analytics of Management data

#### 7.2.x.1 Measurement data correlation analytics for ML training

##### 7.2.x.1.1 Description

This MDA capability is for correlation analysis of Measurement data.

##### 7.2.x.1.2 Use case

For ML model training, collecting a large volume of measurement data instances does not necessarily enhance training performance. The measurement data collected for ML training may exhibit high correlation (linear or non-linear), resulting in significant redundancy. Consequently, using the entire dataset for model training can lead to unnecessary consumption of computational resources and energy.

Optimizing training data preparation based on correlation analysis and redundancy information can be vey helpful. Correlation analysis can identify redundancy patterns within the measurement data for ML training, enabling more efficient model training. This may be achieved in the following ways:

- For a given task (e.g. analytics, model training), correlation analysis can identify relationships among the data, resulting in a reduced dataset that can be used for (re-)training the ML model. This approach can improve training efficiency while managing the impact on model performance compared to using the full dataset. The analysis may also provide recommendations, such as optimizing data collection for training purposes.

- Regularly updating the correlation analytics may be requried, as correlation relationships may evolve over time. this is very useful when there is a recurring need to re-train the ML model.

##### 7.2.x.1.3 Requirements

Table 7.2.x.1.3-1

| Requirement label | Description | Related use case(s) |
| --- | --- | --- |
| **REQ-DATA-CORRELATION-1** | MDA capability for data correlation analytics for ML training should include a capability to provide the measurement data redundancy analysis including which measurement data correlate to which measurement data, the indication of redundancy, and recommendation to optimize measurement data collection for the model training. | Measurement data correlation analytics for ML training (clause 7.2.x.1) |
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***End of change***