**3GPP TSG- Meeting # *rev1***

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **28.537** | **CR** | **Draft CR** | **rev** | **-** | **Current version:** | **16.0.0** |  |
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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:***  | Rel-17 Input to DraftCR 28.537 Add requirements for producing and reporting management data |
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| ***Source to WG:*** | Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | SA5 |
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| ***Work item code:*** | MADCOL |  | ***Date:*** | 2021-04-29 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | 17 |
|  | *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 canbe 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | Add two requirements for producing management data. |
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| ***Summary of change:*** |  |
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| ***Consequences if not approved:*** |  |
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| ***Clauses affected:*** | X |
|  |  |
|  | **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 ...  |
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| ***Other comments:*** | **Input to DraftCR for TS 28.537 related to WI MADCOL and WI FIMA** |
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| ***This CR's revision history:*** |  |

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| **First modification** |

# X Managing management data

## X.1 Producing and reporting management data

### X.1.1 Description

Management data is referring to data produced by radio access network functions, core network functions or management functions and used for management purposes. Management data specified by 3GPP for 5G management is classified into 5G performance measurements as defined by TS 28.552 [x], 5G end to end key performance indicators as defined by TS 28.554 [y] and Trace/MDT data as defined by TS 32.422 [z]. The combined performance measurements and key performance indicators are also called performance metrics.

Management data is produced on request. Therefore, the 3GPP management system needs to enable a data consumer to request management data to be produced. The data requestor must specify the type of data to be produced as well as the radio access network functions, core network functions and management functions where the data shall be produced. The target managed object instances can be identified in multiple ways:

* The requestor can specify the target managed object instances based on the managed object tree (as defined in the SA5 Network Resource Models) representing the network and management functions. The simplest approach is to directly identify the managed object instances where data shall be produced. More sophisticated approaches allow to specify one or more subtrees, where data shall be produced, and may include as well specifying managed object classes.
* The requestor can specify a geographical area. Geographical areas can be expressed for example with multiple longitude/latitude pairs that define a polygon. The system needs to translate this information into the target managed object instances representing network functions that provide support for the geographical area of interest. In the radio domain this mapping requires relating the coverage area of cells supported by a base station to the geographical area of interest.

*Editor's note: Text needs to be added to clarify that management data production jobs on network functions or network function managemen functions need to be instantiated with the requestor providing the target object instances for data production (as is the case today with PerfMetricJob and TraceJob, that shall not be replaced). The more abstract way to specify an area of interest in terms of a geo area is for management functions above this management layer. The idea is hence to have an "abstraction layer" shielding a specific kind of data consumers with little or no knowledge about network deployment details from these complexities.*

After production the data needs to be reported to the data consumers. Reporting can be based on multiple reporting methods such as file or streaming. Data reporting needs to be requested by the data consumer. The requestor must specify the control parameters for reporting such as the reporting method and the address the data shall be delivered to.

Depending on access rights and security settings, data consumers may be subject to restrictions regarding the data they can access.

### X.1.2 Requirements

REQ-MDMPR-1: The 3GPP management system shall enable an authorized data consumer to request management data specified by 3GPP to be produced.

REQ-MDMPR-2: The 3GPP management system shall enable an authorized data consumer to request management data specified by 3GPP to be produced for a certain geographical area.

REQ-MDMPR-: The 3GPP management system shall enable an authorized data consumer to request management data specified by 3GPP to be reported to the requesting or any other authorized data consumer.

Note: The term "management data specified by 3GPP" relates to

* 5G performance measurements as defined by TS 28.552 [x]
* 5G end to end key performance indicators as defined by TS 28.554 [y], and
* Trace/MDT data as defined by TS 32.422 [z].

*Editor's note:*

*Functional (FUN) requirements are ffs.*

*The requirement REQ-MDMPR-2 needs more investigation on how the area of interest can be mapped to target object instances. It requires the 3GPP management system to have knowledge on the coverage area of cells and base stations for example. Especially for core NFs the meaning of a related geographical area needs more clarification. For radio NFs the geographical area of interest is identical to the coverage area of cells supported by a base station, that are of interest.*

## X.2 Coordinating management data production

### X.2.1 Description

Many consumers can request network or management functions to produce management data. In this context it is beneficial to coordinate data requests at the management level to optimize management data production.

### X.2 Requirements

REQ-MDMC-1: The 3GPP management system shall coordinate requests from several data consumers to avoid producing multiple times the same data at a certain point of time.

*Editor's note: It is tbc what exactly is "same data".*

## X.3 Storing management data

### X.3.1 Description

Storing management data enables reusage of management data for multiple management purposes.

For example, AI/ML models need input data collected over a certain period of time for training purposes. A specific set of collected data may serve different purposes and can therefore be input to multiple AI/ML services. For example, management data collected in a geographical area may be used also for another geographical area when the scenarios in the areas are statistically similar.

Another use case for storing produced data is related to the fact that multiple sets of training data from similar scenarios are typically required. For example, one set of data produced for the rush hour in a subway station on a single weekday is typically not enough for profiling. Many sets produced on many workdays are required.

Stored data is useful when management functions can discover which data has been produced and stored in the past to check if the currently needed data is already available.

### X.3.2 Requirements

REQ-MDMS-1: The 3GPP management system shall support storing of produced management data.

REQ-MDMS-2: The 3GPP management system shall enable an authorized data consumer to discover stored management data.

REQ-MDMS-3: The 3GPP management system shall enable an authorized data consumer to retrieve stored management data.

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| **End of modifications** |