**3GPP TSG-SA5 Meeting #162S5-253322Rev3**

**Gothenburg, Sweeden, 25 - 29 August 2025**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **28.533** | **CR** | **0165** | **Rev** |  | **Current version:** | **19.2.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **x** | Core Network | **x** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Rel-19 CR TS 28.533 addition of architecture reference model for management and orchestration in support of SBMA | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | NEC, Intel, Huawei, AT&T, ZTE, CATT, MATRIXX Software, Deutsche Telekom, Verizon, China Unicom, China Mobile, Orange, NTT Docomo, TELECOM ITALIA, Vodafone | | | | | | | | | |
| ***Source to TSG:*** | SA5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SBMA\_Ph3 | | | | |  | ***Date:*** | | | 2025-08-11 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | C |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The current specification does not explicitly define logical Management Functions (MnFs) as producers or consumers of Management Services (MnSs). This lack of clarity creates architectural gaps that lead to ambiguity, inconsistent interpretation across 3GPP Working Groups, and increasing functional overlap, especially as advanced features such as AI/ML, data analytics, and automation expand in 5G Advanced and future 6G systems. The essential, streamlined reference architecture provides the minimum structure needed to ensure architectural traceability and cross-WG alignment while preserving flexibility. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | This change introduces a complementary management framework that strengthens the Service-Based Management Architecture (SBMA) with an essential, streamlined reference architecture (Rel-19 baseline). It explicitly defines logical MnFs, clarifies their roles in relation to MnSs/capabilities, and establishes clear traceability between MnFs and their supported capabilities and MnSs they produce or consume. This Rel-19 baseline reference architecture model enables a consistent, modular foundation that can evolve to support increasing intelligence, autonomy, and cross-domain orchestration in Rel-20 and beyond. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Without this baseline, the architectural role of MnFs will remain unclear, and the SBMA concept as defined in SA5 will continue to be poorly understood by other Working Groups. This lack of clarity risks continuing ambiguity and fragmentation across 3GPP, leading to overlapping or inconsistent functions and hindering effective coordination. Consequently, SA5’s ability to provide clear guidance for end-to-end management and orchestration standardisation for 5G Advanced and the transition towards 6G would be significantly weakened. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | New clauses 5.1a | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  |  | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | For further background including rational for the change request please check the discussion paper in S5-253320, and a supporting CR in S5-253323. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

|  |
| --- |
| **1st change** |

5 Architecture reference model

## 5.1a Architecture reference model for management and orchestration

The architecture reference model for management and orchestration in Figure 5.1a‑x defines a set of functions in the management domain. Each function produces zero, one or more Management Services (MnSs) and/or consumes zero, one or more MnSs (see clause 4.5).

Interaction, including the production and consumption of management services, is exclusively performed via the management service interface which represents the standardised interface that interconnects functions in for the production and consumption of MnSs, enabling consistent, service-based interactions in an implementation‑agnostic manner.

The Functions in the management domain are logical, implementation-agnostic entities, defined independently of any specific deployment scenario. They are characterised by their overall management responsibilities and functional scope (see clause 5.1b). Each function is defined by the set of MnSs it produces and/or consumes, and, where applicable, by the functional management capabilities it logically encompasses to support those MnSs, as specified in the corresponding reference specifications.



Figure 5.1a-x: Architecture reference model for management and orchestration.

Table 5.1a-y defines each function in the architecture reference model for management and orchestration along with the corresponding reference specifications that define their functionality.

**Table 5.1a-y: Functions definition and corresponding reference specifications**

|  |  |  |
| --- | --- | --- |
| **Function** | **Reference management capability of MnS defined in Annex F** | **Reference specification** |
| MDAF | Management Data Analytic | TS 28.104 [57] |
| MLTRF | ML model Management | TS 28.105 [66] |
| MLTEF | ML model Management | TS 28.105 [66] |
| MLEMF | ML model Management | TS 28.105 [66] |
| IHF | Intent Driven Management | TS 28.312 [46] |
| UDHF | Trace/MDT data collection control  Trace/MDT data report  QoE data collection control  QoE data report | TS 32.422 [44], 28.405 [49], TS 28.558 [x1] |
| PMF | Performance Metric Collection Control  Performance Metric Data Report  Performance Metric Threshold Monitor Control  Performance Metric Threshold Notification | TS 28.552 [5] |
| FMF | Fault control  Fault Notification | TS 28.530 [3], 28.111 [68] |
| DMF | File Retrieval  File Download | TS 28.537 [39], TS 28.622 [32], TS 28.623 [54]). |
| PRF | NR Provisioning  5GC Provisioning  Network Slicing Provisioning | TS 28.531 [8] |
| NDTF | FFS | TS 28.561 [x2] |
| CCLF | Communication Service Assurance Control | TS 28.567 [x3] |
| MRDF | MnS Registry and Discovery | TS 28.537 [39] |

NOTE 1: For details on the 5G System reference architecture including entities/functions and interfaces, see TS 23.501, clause 4.2 [31].

NOTE 2: The management interface represents the logical abstraction for management-NFs interactions.

NOTE 3: The reference architecture does not assume or restrict the physical locality of functions in the management domain. The functions can be deployed centrally, distributed, or co-located with Network Functions (NFs) depending on operator’s deployment choices (see clause 4.5).

|  |
| --- |
| **End of changes** |