**3GPP TSG-S4 Meeting #131-bis-e*****S4-250416***

**Electronic, Online, 11th–17th April 2025**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **26.346** | **CR** | **0674** | **rev** | **-** | **Current version:** | **17.5.0** |  |
|  |
| *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)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  |  |
|  |  |
| ***Source to WG:*** | BBC |
| ***Source to TSG:*** | S4 |
|  |  |
| ***Work item code:*** | PMA-MBS\_Ext, TEI17 |  | ***Date:*** | 2025-03-26 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-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:*** | Specification of NTPv4 timestamp carriage in FLUTE FDT and User Service Bundle Description document is ambiguous:* The latest NTPv4 specification in RFC 5905 is referenced, but the use of relevant data fields is not well explained.
* The use of midnight UTC on 1st January 1900 as the epoch only applies when era 0 is signalled.
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| ***Summary of change:*** | Adjust text to reflect more detail about the signalling of NTPv4 time, including the relevant field names specified in RFC 5905: *Era Number* and *Era Offset*. |
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| ***Consequences if not approved:*** | Specification is ambiguous, especially at the era rollover boundary. |
| ***Q*** |  |
| ***Clauses affected:*** | 7.2.11, 7.2.13, 9.4.6, 11.2.1.2 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications |  |
| ***affected:*** |  | **X** |  Test specifications |  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications |  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | CR0674 [S4-250416]: Submitted for WG agreement. |

First change

### 7.2.11 MBMS Session identity

The *MBMS-Session-Identity* element associates the file to the identity of the MBMS session. If the file will be part of several MBMS transmission sessions, then a list of MBMS session identities is defined.

The *MBMS-Session-Identity-Expiry* element associates an expiration time with an MBMS session identity value. Similar to the FLUTE FDT expiration time, the MBMS session identity expiration time (*value* attribute) is expressed within the FDT Instance payload as a 32-bit data field. The value of the data field conveys the 32-bit *Era Offset* value from the 128-bit *NTP Date Format* data type specified in section 6 of RFC 5905 [78]. These 32 bits provide an unsigned integer representing the Network Time Protocol (NTP) time in seconds relative to the current NTP era signalled in the *Era Number* field of the *NTP Date Format* data type. For era 0, the base date is midnight UTC (0 hours) on 1 January 1900.

Next change

7.2.13 Caching directives signalling

A file download service may indicate the caching recommendations for a specific file or set of files that are delivered using FLUTE. The caching directives are to be used with the file download modes as follows:

- *Promiscuous mode:* it is recommended to use the caching directives with the promiscuous mode as it enables improved management of the storage at the UE. Applications make use of available copies of files as long as their respective caching time is still valid. In case one or several files have expired, and the download session is still available, the UE should join the FLUTE session and download the expired files. Alternatively, the UE may attempt to retrieve the file using HTTP and the file URL.

- *One-Copy mode:* Caching directives may be used with the one-copy mode to indicate the validity of a certain file. Applications requesting the file will receive the cached file as long as it is still valid. A file that is not expected to be static may indicate a long expiry time or permanent validity.

- *Keep-Updated mode:* it is recommended to use the caching directives with the keep-updated mode to indicate the validity of a certain file. Applications requesting the file will receive the cached file as long as it is still valid.

The caching functionality defines three different caching directives:

**-** *no-cache*: this directive is used to indicate to the receiver not to cache a specific file (or set of files). This is probably useful in the case where the file is expected to be highly dynamic (changes to the file occur quite often) or if the file will be used only once by the receiver application.

**-** *max-stale*: this directive indicates to the FLUTE receiver that a specific file (or set of files) should be cached for an indefinite period of time, if possible. The file has no expiry date.

**-** *Expires*: this directive is used by the server to indicate the expected expiry time of a specific file (or set of files). It conveys the 32-bit *Era Offset* value from the 128-bit *NTP Date Format* data type specified in section 6 of RFC 5905 [78]. These 32 bits provide an unsigned integer representing the Network Time Protocol (NTP) time in seconds relative to the current NTP era signalled in the *Era Number* field of the *NTP Date Format* data type. For era 0, the base date is midnight UTC (0 hours) on 1 January 1900.

The syntax of the caching directives is specified in listing 7.2.10.2-2, and the "Cache-Control" element is further referred to by the main FDT schema of clause 7.2.10.1.

Next change

### 9.4.6 Reception Report request message

(Snip)

- The *sessionStartTime* and *sessionStopTime* attributes identifies the time when the session was started and stopped, respectively. The value of each attribute conveys the 32-bit *Era Offset* value from the 128-bit *NTP Date Format* data type specified in section 6 of RFC 5905 [78]. These 32 bits provide an unsigned integer representing the Network Time Protocol (NTP) time in seconds relative to the current NTP era signalled in the *Era Number* field of the *NTP Date Format* data type. For era 0, the base date is midnight UTC (0 hours) on 1 January 1900. Handling of wraparound of the 32-bit time is outside the scope of FLUTE.

(Snip)

Next change

#### 11.2.1.2 Extensions to the User Service Bundle Description syntax

(Snip)

An *initiationRandomization* element may contain the *initiationStartTime* attribute, which defines the start time for the initiation procedure randomization period. The value of the data field conveys the 32-bit *Era Offset* value from the 128-bit *NTP Date Format* data type. These 32 bits provide an unsigned integer representing the Network Time Protocol (NTP) time in seconds relative to the current NTP era signalled in the *Era Number* field of the *NTP Date Format* data type. For era 0, the base date is midnight UTC (0 hours) on 1 January 1900. If the *initiationStartTime* attribute is not present, the MBMS UE shall use the reception time of the User Service Discovery/Announcement information as *initiationStartTime.*

(Snip)

End of changes