# Impact Analysis Report / RFC-Proposal

**Section 1: Meta-data**

|  |  |
| --- | --- |
| **RFC ID** | **RFC\_DDCOM\_0035** (UCCNCTS-4438) |
| **Related Incident ID** | **IM775995, IM638869, IM622746** |
| **RFC Initiator / Organization** | **DG TAXUD IT & NA-SI** |
| **CI** | **DDCOM 21.4.0-v1.00** |
| **Type of Change** | **Standard  Emergency** |
| **Nature of Change** | **Corrective  Evolutionary (evolutive)**  Justification (for Evolutive only)   |  | | --- | |  | |
| **RFC Source** | |  |  | | --- | --- | | **Legal & Policy Change**  **Organisational Changes** | **Business Change**  **IT Change** | |
| **Review by Business User recommended?** | **Yes  No** |

***Change Summary***

|  |
| --- |
| **DDCOM 21.4.0-v1.00: Clarification: ‘Date’ fields must be defined based on ‘UTC Time’ in all Common Domain exchanges.** |
| Update of the section "V.2.1.1.3 Date/Time Fields (NCTS-P5 and AES-P1)" to make it explicit that the ‘Date’ fields must also adhere to the UTC definition, like the ‘Date Time’ and ‘Time’ fields. |

**Section 2: Problem statement**

|  |
| --- |
| In operations the following incidents have been raised:   1. Regarding IM638869, some CD518C messages (AES) were rejected due to the violation of **R0864** (DDNXA-5.15.1-v1.00):   **R0864 - Technical description:**  If specified, this date must be less or equal to the date reported in /\*/Preparationdateandtime of this message and must NOT be less than the /\*/ExportOperation/releaseDate of the CD501C/CD503C for this movement. **A tolerance of one (1) day will be applied to take into account that the NECAs’ system times may diverge due to different time zones, daylight savings time (DST) schemes, and non-synchronous clocks.**   1. In addition, the Rule R0004 for NCTS-P5 (in DDNTA 5.15.1-v1.00) specifies a constraint between a date and a time, as documented below:   **R0004 - Technical description:**  The value of /\*/CustomsOfficeOfTransitDeclared/arrivalDateAndTimeEstimated field is considered valid only if it is not LESS than or EQUAL to /\*/TransitOperation/releaseDate  By the way, unless DDNXA, DDNTA does not include the sentences “*If specified, this date must be less or equal to the date reported in /\*/Preparationdateandtime of this message and (…). A tolerance of one (1) day will be applied to take into account that the NECAs’ system times may diverge due to different time zones, daylight savings time (DST) schemes, and non-synchronous clocks.*”   1. For NCTS, the following illustrative rejection was observed in the context of IM775995 where CD018C from NTA.TR (working with *Dates* based on *Local Time*) were rejected by NTA.IT (working with *Dates* based on *UTC Time*). An example:   <?xml version="1.0" encoding="UTF-8" standalone="yes"?>  <ns2:CD018C xmlns:ns2=http://ncts.dgtaxud.ec>  <messageSender>NTA.TR</messageSender>  <messageRecipient>NTA.IT</messageRecipient>  <preparationDateAndTime>**2024-12-20T22:19:32**</preparationDateAndTime>  <messageIdentification>FwwC63wtr0a7Qm</messageIdentification>  <messageType>CD018C</messageType><TransitOperation>  (…)  <ControlResult>  <code>A1</code>  <date>**2024-12-21**</date>  </ControlResult>  </ns2:CD018C>  (at 22h19 UTC, it’s 01h19 Local Time in Ankara (=UTC+3)).   1. Here is an example for AES, where the root cause of this issue is best illustrated:  * MS #1 registered in its NECA the exit date on e.g. **22**-05-2024 at 00:13 **CET**; [*= ‘Exit stopped date’ in the CC599C received from Trader at Exit - Based on* *local* *time*] * Two minutes later, MS #1 sends to MS#2 on **21**-05-2024 at 22:15 **UTC** the CD518C with the date **22**-04-2024 (i.e. re-using the information from the trader, based on *local* *time*); * MS #2 identified that exit date is **NOT** *less or equal to the date reported in /\*/Preparationdateandtime* (i.e. based on UTC Time, as defined in DDCOM): if the tolerance of one (1) day is not applied, the R0864 is broken. The CD518C was rejected by MS #2 with CD906C.   The following two examples were encountered from the business monitoring of AES operations and illustrate the cases when the timestamp of “Exit date” is close or after the midnight (in local time of OoExt NA):   * In the CD518C message the DI “***Preparation date and time***” is “***2023-10-28T22:24:15”***while the DI “Exit date” under DG “***Control Result***” has the value “***2023-10-29***”; * In the CD518C message the DI “***Preparation date and time***” is “***2024-03-21T23:45:44***” while the DI ““Exit date” under DG “***Control Result***” has the value “**2024-03-22**”.   In these cases, the tolerance of one (1) day was not applied and R0864 was (correctly) considered as violated because the DI “Date” under DG “Control Result” is NOT less or equal to the date reported in the DI “Preparation date and time”.  Root cause identified:  When the **UTC Time** is not always used to define the **Date**. It could lead to inconsistent data received by the Western countries located in a different timezone. Without harmonized definition of the **Date** in the Common Domain, some NTAs will keep rejectng some messages (exchanged before midnight).  In DDCOM, the section **“V.2.1.1.3 Date/Time Fields (NCTS-P5 and AES-P1)”** should be updated to clarify that the ‘Date’ fields included in the Common Domain message must be defined based on the UTC Time (i.e. and not on the local time). So, all the Date, Time and Date Time fields will be communicated in a consistent way: once the ‘legacy’ national applications are de-commissioned, the usage of local time in Time fields and Date Time fields is no more permitted in the Common Domain messages. |

**Section 3: Description of proposed solution**

|  |
| --- |
| The following update will be performed into **DDCOM-21.4.0-v1.00** (~~deleted text strikethrough and red colour~~ and added text in yellow):    **V.2.1.1.3 Date/Time Fields (AES-P1, NCTS-P5 and NCTS-P6)**  The specification of Date and/or Time fields used in TMS (Technical Message Structure and Appendix Q2 of system-specific DDNA) is based on W3C XML Schema specification [S18] except that:   * all *years* in **DateTime** and **Date** fields are in the Common Era (i.e. AD), hence the negative sign is not permitted; * for all *times* in **DateTime** fields the time zone must be omitted. For the Common Domain messages, the time in all **DateTime** fields must be the UTC Time. The local time can be used for the External Domain messages, but the NCA must convert the local time into the UTC Time before sending the message over the CCN. It is recommended that the recipient also store the **DateTime** fields in UTC (even if displayed for the NCA's end user in local time); * the fractional seconds must not be used in **DateTime** fields; * for all *dates* in **Date** fields included in the Common Domain messages, the UTC standard must be used. It will ensure a standardized representation of *dates* data across different time zones in the Common Domain messages.   Based on the W3C XML to Schema specification [S19] (Part2: Datatypes) and ISO 8601 Date and Time format [S20], the following table (Table 28) defines the format for each type and their corresponding regular expression, as it is applicable for NCTS-P5 and AES-P1.  It is worth noting that during the Transitional Period, no conversion of DateTime and Time fields to UTC Time will be performed by the ieCA.  The NA in TO-BE phase will:   * send Common Domain messages with UTC Time in all **DateTime** and **Time** fields; * send Common Domain messages with all **Date** fields defined as per UTC Time, even though these fields do not directly store *time* data; * receive Common Domain messages with UTC Time [or Local Time (\*)] in all **DateTime** and **Time** fields; * receive Common Domain message with all **Date** fields defined as per UTC Time [or Local Time (\*)], even though these fields do not directly store *time* data.   (\*) **Note:** Only for the movements released **before or on TPendDate**, a *local* datetime (e.g. CET) and a date based on *local datetime* could be exchanged, being used only by some legacy applications (and not ‘adjusted’ by the ieCA). However, for all movements released **after** the end of Transitional Period (i.e. after TPendDate), it can be expected by the receiving NCA that only UTC time is used.  **IMPACT ASSESSMENT**  **No impact on External Domain IEs structure.**  Considering the few rejections observed in operations, we may assume that most countries have already applied this ‘implicit’ feature in their NTA and NECA.  This RFC-Proposal is likely not purely ***documentary***improvement for **some** National Teams. This clarification will be very helpful for the acceding countries that start NCTS/AES or re-defines the validation of their CD messages.  If a country identifies that the content of a ‘Date’ field is not based on UTC Time in CD messages, **then it is invited to improve it’s NCA as soon as possible**. In the meantime, the application of R0864 should be suspended in AES or the R0864 adapted to offer the tolerance of one day.  This RFC-Proposal aims to improve the business continuity.  **Proposed** date of applicability in Operations (T-Ops): As early as possible.  **Proposed** date of applicability in CT (T-CT): N/A - Not verified during CT (no existing Test Case).  **Expected** date of approval by ECCG (T-CAB): Together with the acceptance by ECCG of DDCOM-21.4.0-v2.00.  **Impact on transition Legacy-ToBe**: Only positive impact on AES & NCTS operations is expected.  **Consequence of not approving the RFC-Proposal**: The specifications will remain implicit, with a possible risk of confusion for some National development teams, with a risk of some few rejections on the Common Domain.  **Risk of not implementing the change**: For NAs already aligned (***documentary*** **change** for them), for the other NAs, rejections of CD518C, CD592C (AES) or CD018C (NCTS) may be observed in the Common Domain.    **Impacted messages:** (List of Common Domain messages with a data item ‘Date’, main rejections are observed for CD018C and CD518C)  NCTS:   * CD001C, CD003C, **CD018C**, CD038C, CD049C, CD050C, CD063C, CD115C, CD118C, CD119D, CD142C, CD143C, CD144C, CD145C, CD150C, CD151C, CD152C, CD160C, CD165C, CD168C, CD180C, CD181C, CD200C, CD203C, CD204C, CDA13D, CDA15D   AES:   * CD501C, CD503C, CD510C, **CD518C**, CD533C, CD538C, CD540C, CD541C, CD542C, CD543C, CD545C, CD563C, CD588C, CD591C, CD592C, CD601C, CD603C   **Impacted CI Artefacts:**   * **DDCOM 21.4.0-v1.00: Yes.** * DDNTA-5.15.2: No; DDNTA-6.4.0: No; DDNXA-5.15.2: No. |

**Impact on CI artefacts**

|  |  |  |
| --- | --- | --- |
| * **DDCOM-21.4.0-v1.00** | **Cosmetic  Low  Medium  High  Very High**  **Short description**   |  | | --- | | **Only Section** *V.2.1.1.3 V.2.1.1.3 Date/Time Fields (AES-P1, NCTS-P5 and NCTS-P6)* **is slightly modified \_ See section 3 above.** | |

**Estimated impact on National Project**

|  |  |
| --- | --- |
| **None  Cosmetic  Low  Medium  High  Very High**  Short description   |  | | --- | | •NO IMPACT if already implemented (only to get the reference to DDCOM-20.4.1-v2.00 replaced by a reference to DDCOM-21.4.0-v2.00).  •If the NA has one or more applications that are not yet aligned to it, it shall apply this change, test it, and deploy it, as early as possible. | |

| **Document History** | | | |
| --- | --- | --- | --- |
| **Version** | **Status** | **Date** | ***Comment*** |
| v1.00 | SfA-NPM\_IMPL | 18/12/2024 | *Change implemented in DDCOM-21.4.0-v2.00 as emergency corrective change to clarify the specifications in order to eliminate the data with inconsistencies and to avoid the (small percentage of) rejections observed in the Common Domain messages, in AES & NCTS-P5.* |