# Impact Analysis Report / RFC-Proposal

**Section 1: Meta-data**

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| **RFC ID** | **UCCNCTSP6-280** |
| **Related Incident ID** | - |
| **RFC Initiator / Organization** | **DG TAXUD IT** |
| **CI** | **DDCOM-21.4.0-v1.00** |
| **Type of Change** | **Standard  Emergency** |
| **Nature of Change** | **Corrective  Evolutionary (evolutive)**  Justification for Evolutive   |  | | --- | |  | |
| **RFC Source** | |  |  | | --- | --- | | **Legal & Policy Change**  **Organisational Changes** | **Business Change**  **IT Change** | |
| **Review by Business User recommended?** | **Yes  No** |

***Change Summary***

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| **DDCOM 21.4.0-v1.00: Remove fractional seconds from xsd Date/Time pattern** |
| This RFC documents the correction of the **DateTime** XSD patterns (*also incorrectly used in stypes.xsd in DDNTA-6.4.0-v1.02*) included in Section V.2.1.1.3 of DDCOM-21.4.0-v1.00, by removing the representation of fractional seconds |

**Section 2: Problem statement**

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| During the NPM review cycle of DDNTA-6.4.0-v1.02, NA.DE has identified that the XSD types for Date and Time incorrectly include the optional fractional seconds.  The following contradictions should be eliminated:   * The **DDNTA-6.4.0-v1.02** Appendix X mentions that optional fractional seconds is authorised (optional); * The **DDNTA-6.4.0-v1.02** Appendix Q mentions that the format of date and time is ‘an19’ (leaving no space for the optional fractional seconds . * **In DDCOM-21.4.0-v1.00**, the Table 36 (in Section V.2.1.1.3), incorrectly includes the optional fractional seconds as follows:  |  | | --- | | <xs:simpleType name=**"DateTimeType"**>  <xs:annotation>  <xs:documentation>**DATE: The date is in the Common Era (minus sign in years is not permitted). TIME: The Coordinated Universal Time (UTC). The UTC time is defined without offsets. UTC is used to avoid confusion about time zones and daylight saving time. Local time may be used for the External Domain messages (not recommended) and must be converted in UTC before sending this information on the Common Domain.**</xs:documentation>  </xs:annotation>  <xs:restriction base=**"xs:dateTime"**>  <xs:pattern value=**"\d{4}-\d{2}-\d{2}T\d{2}:\d{2}:\d{2}(\.\d+)?"** />  </xs:restriction>  </xs:simpleType> |   Table 36: XSD restriction for Data Items of type Date/Time (*DateTimeType*)   * The Tables 34 and 35 include an obvious typo, with **(\.\d+)?** copy/pasted from Table 36. * In **DDCOM-21.4.0-v1.00** section "**V.2.1.1.3 Date/Time Fields (AES-P1, NCTS-P5, and NCTS-P6)**" a guideline states that "*fractional seconds must not be used in DateTime fields.*" * In the same **section V.2.1.1.3** the following extract confirms that **DateTime** and **Time** fields should capture time accurately up to the second.   (…)  The NA operating as AES-P1, NCTS-P5 and NCTS-P6 will:   * send Common Domain messages with UTC time in all DateTime and Time fields; * receive Common Domain messages with UTC or local time in all DateTime and Time fields.  |  |  | | --- | --- | | Type | Regular Expression | | Date | YYYY ‘-‘ MM ‘-‘ DD  \d{4}-\d{2}-\d{2} | | Time | hh ‘:’ mm ‘:’ ss  \d{2}:\d{2}:\d{2} | | Date/Time | YYYY ‘-‘ MM ‘-‘ DD ‘T’ hh ‘:’ mm ‘:’ ss  \d{4}-\d{2}-\d{2}T\d{2}:\d{2}:\d{2} |   Table 33: Date/Time fields format and their corresponding regular expressions  Where:   * YYYY is four digit; * the remaining ‘-‘s are separators between parts of the date portion; * MM is a two-digit numeral that represents the month; * DD is a two-digit numeral that represents the day; * ‘T’ is a separator indicating that time-of-day follows; * hh is a two-digit numeral that represents the hour; * ‘:’ is a separator between parts of the time-of-day portion; * mm is a two-digit numeral that represents the minute; * ss is a two-integer-digit numeral that represents the seconds, while leap seconds are not allowed.   (…)  The removal of the optional fractional seconds from the XSD pattern in DDCOM would eliminate those contradictions. |

**Section 3: Description of proposed solution**

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| The **DDCOM-21.4.0-v1.00** shall be updated in section “V.2.1.1.3”, where the Tables 34, 35 and 36 will be corrected as follows (text deletions are pointed with ~~strikethrough~~ and added portions with highlight):  (…)  **XSD restriction for Data Items of type *Date (DateType)* as per Table 33:**   |  | | --- | | <xs:simpleType name=**"DateType"**>  <xs:annotation>  <xs:documentation>**Calendar dates are represented YYYY-MM-DD format, following ISO 8601. This is a W3C XML Schema date type, but without the optional timezone data**.</xs:documentation>  </xs:annotation>  <xs:restriction base=**"xs:date"**>  <xs:pattern value**="\d{4}-\d{2}-\d{2}~~(\.\d+)?~~"** />  </xs:restriction>  </xs:simpleType> |   Table 34: XSD restriction for Data Items of type Date (*DateType*)  **XSD restriction for Data Items of type *Time (TimeType)* as per Table 33:**   |  | | --- | | <xs:simpleType name=**"TimeType"**>  <xs:annotation>  <xs:documentation>**The Coordinated Universal Time (UTC). The UTC time is defined without offsets. UTC is used to avoid confusion about time zones and daylight saving time. Local time may be used for the External Domain messages (not recommended) and must be converted in UTC before sending this information on the Common Domain.**</xs:documentation>  </xs:annotation>  <xs:restriction base=**"xs:time"**>  <xs:pattern value=**"\d{2}:\d{2}:\d{2}~~(\.\d+)?~~"** />  </xs:restriction>  </xs:simpleType> |   Table 35: XSD restriction for Data Items of typeTime *(TimeType)*  **XSD restriction for Data Items of type *Date*/*Time (DateTimeType)* as per Table 33:**   |  | | --- | | <xs:simpleType name=**"DateTimeType"**>  <xs:annotation>  <xs:documentation>**DATE: The date is in the Common Era (minus sign in years is not permitted). TIME: The Coordinated Universal Time (UTC). The UTC time is defined without offsets. UTC is used to avoid confusion about time zones and daylight saving time. Local time may be used for the External Domain messages (not recommended) and must be converted in UTC before sending this information on the Common Domain.**</xs:documentation>  </xs:annotation>  <xs:restriction base=**"xs:dateTime"**>  <xs:pattern value=**"\d{4}-\d{2}-\d{2}T\d{2}:\d{2}:\d{2}~~(\.\d+)?~~"** />  </xs:restriction>  </xs:simpleType> |   Table 36: XSD restriction for Data Items of type Date/Time (*DateTimeType*)  **IMPACT ASSESSMENT**  The XSD pattern of **DateTime** fields used in Information Exchanges (Common and External Domain) must be updated to ensure that fractional seconds are not used.  **Consequence of not approving and not implementing this RFC-Proposal**:  The DDCOM will provide examples that depict erroneous information, with high risk of confusion for NAs regarding the implementation of **DateTime** values in Information Exchanges.  **Impacted CI Artefacts:**   * **DDCOM-21-4.0-v1.00: Yes.** * **DDNTA-6-4.0-v1.02: Yes.** * DDNTA-5.15.2-v2.00: No. * DDNXA-5.15.2-v2.00: No. |

**Impact on CI artefacts**

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| * **DDCOM-21.4.0-v1.00** | **Cosmetic  Low  Medium  High  Very High**  **Short description**   |  | | --- | | **See section 3 above.** | |

**Estimated impact on National Project**

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| **None  Cosmetic  Low  Medium  High  Very High**  **Short description**   |  | | --- | | For NAs, this correction is important to avoid any confusion possibly generated by this DDCOM-21.4.0-v1.00 and by DDNTA-6.4.0-v1.02.  It will be **likely be a pure documentary change** for the NAs having not yet started any development for NCTS-P6. The format of the **Time** and **DateTime** fields in the messages exchanged in Common and External Domain are not modified: **optional fractional seconds shall remain not to be used** (as it is the case in the DDNxA-5.15.2-v2.00). | |

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| **Document History** | | | |
| **Version** | **Status** | **Date** | ***Comment*** |
| v0.10 | Submitted for Review to DG TAXUD | 14/10/2024 | *Draft by SOFTDEV* |
| v1.00 | SfA-NPM\_IMPL | 18/12/2024 | *Change implemented in DDCOM-21.4.0-v2.00 as emergency corrective change to eliminate the contradiction in the specifications for NCTS-P6.* |