

WCTP 1.1
Corrections and Clarifications
Technical Note #1

Date/Time & Duration Specifications

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Personal Communications Industry Association
Wireless Communication Transfer Protocol

1 Purpose

The purpose of this technical note is to clarify the date and time representation in WCTP specification and to emphasize the fact that all the date/time attributes in WCTP Operations must be specified in Coordinated Universal Time, or UTC (formerly known as Greenwich Mean Time, or GMT).

2 Date and Time Format

Section 3.2.5 of the WCTP specification requires that all "date and time" values be specified according to the format defined in ISO8601 Section 5.4.1 clause (a). Per 3.2.1 - 3.2.3 this format is:

CCYY-MM-DDTHH:MM:SS

or

CCYY-MM-DDTHH:MM:SS,S

where "T" is a literal character (ISO8601 designator). Additionally, WCTP 3.2.4 requires that the actual date/time represented in this format be UTC (GMT). Although, ISO8601 Section 5.3.3 requires that a literal character "Z" (time zone designator) be appended to the above format string to indicate UTC, WCTP 1.1 does not support the use of suffix "Z" and the format is always assumed to represent UTC time.

If the user erroneously specifies a local time rather than UTC for a timestamp attribute, such as `submitTimestamp`, when submitting a message, the WCTP gateway will simply pass it through in the response operation. However, when the user erroneously specifies local time for scheduling attributes (such as `deliveryAfter` and/or `deliveryBefore`) during message submission, it may unexpectedly result in any one of the following situations, depending on the offset of the local time from UTC and the scheduling specified:

1. The message may be delivered before the `deliveryAfter` time.
2. The message may be delivered after the `deliveryBefore` time.
3. The message may expire and never be delivered.

To get the proper message delivery schedule, the user must ensure that all date/time attributes represent UTC, without the "Z" suffix. Including the "Z" suffix will result in rejection by a properly implemented 1.1 gateway [see Error 405].

3 Time Periods

When a period of time needs to be specified, (such as `minNextPollInterval`) the WCTP Duration format for 1.0 and 1.1 is:

"x"

where x is any integer in seconds.

Beginning in WCTP 2.0 the format for time duration will be changed to a subset (profile) of ISO8601, and the raw seconds format described above will no longer be supported. The proposed general format for 2.0 is:

PkDTmHnMnS

where the "P" (upper case letter P), "D," "T," "H," and "M" are literal characters (ISO8601 designator), "k," "m" and "n" are integer values limited to 31, 23, and 59 respectively, and "S" (upper case letter S) is a literal character. This format is a specific profile of the choices available in ISO8601 section 5.5.3.2. Only those literals designating days, hours, minutes or seconds that have non-zero values are required, but "P" must always appear and "T" must appear if hours, minutes or seconds are non-zero. Months, Weeks, and Years are not permitted in WCTP. Note that if any of the integer values "k", "m", or "n" is 0, that portion of the designator may optionally be omitted. For example, P1D, PT2H, PT5M, PT30S are all valid formats derived from the general duration format.

4 Examples

1. A user submitting a message from New York at 13:30 EST (Eastern Standard Time) on February 26, 2001, will specify submitTimestamp attribute as follows (EST is -5 hours from UTC):

```
submitTimestamp="2001-02-26T18:30:00"
```

2. A user submitting a message from Dallas at 13:30 CDT (Central Daylight Time) on May 26, 2001 to be delivered after 15:00 CDT will specify submitTimestamp and deliveryAfter attributes as follows (CDT is -5 hours from UTC):

```
submitTimestamp="2001-02-26T18:30:00"
```

```
deliveryAfter="2001-02-26T20:00:00"
```

No matter which time-zone the recipient is in, the message will be delivered after 20:00 UTC.

3. A user submitting a message from San Francisco at 13:30 PST (Pacific Standard Time) on February 26, 2001 to be delivered after 15:00 PST but before 17:00 PST will specify submitTimestamp, deliveryAfter, and deliveryBefore attributes as follows (PST is -8 hours from UTC):

```
submitTimestamp="2001-02-26T21:30:00"
```

```
deliveryAfter="2001-02-26T23:00:00"
```

```
deliveryBefore="2001-02-27T01:00:00"
```

4. A poller submits a PollForMessages operation and receives a PollResponse with minNextPollInterval set to indicate to the poller that it should wait 2 minutes (120 sec) before polling again:

```
minNextPollInterval="120"
```

An implementation conforming to WCTP 2.0 may recognize the following:

```
minNextPollInterval="PT2M"
```

to mean the same interval. Longer intervals, such as 27 hours 15 minutes, would be shown as "P1DT3H15M" rather than 98100 seconds.