

Current Time Service (CTS)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

- **Revision:** CTS.ICS.1.1.1 edition 4
- **Revision Date:** 2021-11-24
- **Group Prepared By:** BTI



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1 Identification of the implementation

Identification of the Implementation Under Test (IUT) shall be filled in to provide as much detail as possible regarding version numbers and configuration options.

An ICS contact person to respond to queries regarding information supplied in this ICS proforma shall be named in the Declaration of Compliance: Summary of Selected Specifications in Implementation.

1.1 Implementation Under Test (IUT) identification

IUT Name:

IUT Version (Hardware/Software ID):

IUT Supplier:

1.2 Specification version

Table 0: Major Versions (X.Y)

| Item | Version | Reference | Status |
|------|------------------------|-----------|----------|
| 1 | CTS v1.0 ^{**} | [4] | C.1, C.2 |
| 2 | CTS v1.1 | [6] | C.1 |

C.1: Mandatory to support one and only one of CTS 0/1 “CTS v1.0” OR CTS 0/2 “CTS v1.1”.

C.2: Excluded after the date of deprecation. Deprecated 2022-02-01. Withdrawn 2023-02-01.

1.3 Transport requirements

Table 1: Transport Requirements

| Item | Transport | Reference | Status |
|------|-------------------------------|--------------------|----------|
| 1 | Service supported over BR/EDR | [3] GAP 0/1 | C.1, C.3 |
| 2 | Service supported over LE | [3] GAP 0/2 or 0/3 | C.2, C.3 |

C.1: Excluded IF CTS 0/1 “CTS v1.0” is supported, otherwise Optional.

C.2: Mandatory IF CTS 0/1 “CTS v1.0” is supported, otherwise Optional.

C.3: Mandatory to support at least one of CTS 1/1 “Service supported over BR/EDR” OR CTS 1/2 “Service supported over LE”.

1.4 Sources that can Change Server’s Local Time

Table 2: Sources that can Change Server’s Local Time

| Item | Capability | Reference | Status |
|------|--------------------------------|----------------------|--------|
| 1 | Manual setting | [6] 3.1.2, [4] 3.1.1 | C.1 |
| 2 | External Reference Time update | [6] 3.1.2, [4] 3.1.1 | C.1 |
| 3 | Time Zone change | [6] 3.1.2, [4] 3.1.1 | C.1 |
| 4 | DST offset change | [6] 3.1.2, [4] 3.1.1 | C.1 |

C.1: Mandatory to support at least one of CTS 2/1 “Manual setting” OR CTS 2/2 “External Reference Time update” OR CTS 2/3 “Time Zone change” OR CTS 2/4 “DST offset change”.

1.5 Service requirements

The table below lists the feature requirements of a device supporting Current Time service. This section should be completed by all suppliers.

Table 3: Service Requirements – Current Time Service

| Item | Capability | Reference | Status |
|------|---|--------------------|--------|
| 1 | Current Time Service | [6], [4] 2 | M |
| 2 | Current Time Characteristic | [6], [4] 3 | M |
| 3 | Client Characteristic Configuration Descriptor for Current Time | [6], [4] 3.1 | M |
| 4 | Read Current Time | [6], [4] 3.1.1 | M |
| 5 | Local Time Information Characteristic | [6], [4] 3.2 | O |
| 6 | Read Local Time Information Characteristic | [6] 3.2.1, [4] 3.2 | C.1 |
| 7 | Reference Time Information Characteristic | [6], [4] 3.3 | O |
| 8 | Read Reference Time Information Characteristic | [6], [4] 3.3 | C.2 |

^{**} Deprecated versions may not appear in Launch Studio after the deprecation date. TCRLs published after this date will not allow the use of deprecated versions.



| Item | Capability | Reference | Status |
|------|---|--------------------------|--------|
| 9 | Current Time Characteristic, Configure to enable/disable Notification | [6] 3.1.2, [4] 3.1.1 | M |
| 10 | Current Time Characteristic, Notify disabled | [6] 3.1.2, [4] 3.1.1 | M |
| 11 | Current Time Characteristic, Notify by Manual Change | [6] 3.1.2.1, [4] 3.1.1.1 | C.3 |
| 12 | Current Time Characteristic, Notify by Time Zone Change | [6] 3.1.2.3, [4] 3.1.1.3 | C.4 |
| 13 | Current Time Characteristic, Notify by DST Change | [6] 3.1.2.4, [4] 3.1.1.4 | C.5 |
| 14 | Current Time Characteristic, Notify by Reference Time Change | [6] 3.1.2.2, [4] 3.1.1.2 | C.6 |
| 15 | Current Time Characteristic, Notify by "Get Reference Update" command, Reference Time Change with the Reference Time Update service | [6] 3.1.2.2, [4] 3.1.1.2 | C.8 |
| 16 | Current Time Characteristic Write | [6] 3.1.3 | C.7 |
| 17 | Local Time Information Characteristic Write | [6] 3.2.2 | C.7 |

C.1: Mandatory IF CTS 3/5 "Local Time Information Characteristic" is supported, otherwise Excluded.

C.2: Mandatory IF CTS 3/7 "Reference Time Information Characteristic" is supported, otherwise Excluded.

C.3: Mandatory IF CTS 2/1 "Manual setting" is supported, otherwise Excluded.

C.4: Mandatory IF CTS 2/3 "Time Zone change" is supported, otherwise Excluded.

C.5: Mandatory IF CTS 2/4 "DST offset change" is supported, otherwise Excluded.

C.6: Mandatory IF CTS 2/2 "External Reference Time update" is supported, otherwise Excluded.

C.7: Excluded IF CTS 0/1 "CTS v1.0" is supported, otherwise Optional.

C.8: Optional IF CTS 2/2 "External Reference Time update" is supported, otherwise Excluded.

1.6 GATT requirements

Table 4: GATT Requirements

| Item | Capability | Reference | Status | Inter-Layer Dependency |
|------|---|--------------|--------|------------------------|
| 1 | Generic Attribute Profile (GATT) Server | [6], [4] 1.4 | M | [2] GATT 1/2 |
| 2 | Notifications | [6], [4] 1.4 | M | [2] GATT 4/17 |
| 3 | Read Characteristic Descriptors | [6], [4] 1.4 | M | [2] GATT 4/19 |
| 4 | Write Characteristic Descriptors | [6], [4] 1.4 | M | [2] GATT 4/21 |
| 5 | Write Characteristic Value | [6], [4] 1.4 | C.1 | [2] GATT 4/14 |

C.1: Excluded IF CTS 0/1 "CTS v1.0" is supported, otherwise Optional.

1.7 SDP requirements

Table 5: SDP Requirements

Prerequisite: CTS 1/1 "Service supported over BR/EDR"

| Item | Capability | Reference | Status | Inter-Layer Dependency |
|------|-------------------------|------------|--------|------------------------|
| 1 | Support for Server role | [6], [4] 4 | M | [5] SDP 1b/1 |
| 2 | ProtocolDescriptorList | [6], [4] 4 | M | [5] SDP 9/2 |
| 3 | BrowseGroupList | [6], [4] 4 | M | [5] SDP 9/5 |

2 References

- [1] Specification of the Bluetooth System, Version 4.0 or later
- [2] ICS Proforma for Generic Attribute Profile (GATT)
- [3] ICS Proforma for Generic Access Profile (GAP)
- [4] Current Time Service Specification, Version 1.0
- [5] ICS Proforma for Service Discovery Protocol (SDP)
- [6] Current Time Service Specification, Version 1.1

3 Revision history and acknowledgments

Revision History

| Publication Number | Revision Number | Date | Comments |
|--------------------|--------------------|-------------------------|---|
| 0 | 1.0.0 | 2011-09-15 | Adopted by the Bluetooth SIG Board of Directors |
| | 1.0.1r0 | 2011-12-13 | TSE 4549: Table 1, Table 2 updates TSE 4574: Table 3 footnote updates |
| 1 | 1.0.1 | 2012-03-30 | Prepare for publication |
| 2 | 1.1.0 | 2014-10-07 | BoD Approval of CTS 1.1 |
| | 1.1.1r00 | 2015-05-10 | TSE 6128: Added new conditional C.8 to Table 3 and updated item 15 to point to it. |
| 3 | 1.1.1 | 2015-07-14 | Prepared for TCRL 2015-1 publication. |
| | 1.1.1 edition 2r00 | 2018-11-21 | Editorial changes only. Template updated. Revision History and Contributors tables moved to the end of the document. |
| | 1.1.1 edition 2 | 2019-11-25 | Updated copyright page and confidentiality markings to support new Documentation Marking Requirements, performed minor formatting updates, and accepted all tracked changes to prepare for edition 2 publication. |
| | 1.1.1ed3 r00–r03 | 2021-03-24 – 2021-05-25 | TSE 16011 (rating 1): Added deprecation and withdrawal information to Table 0, cleaned up conditionals in Table 3 for consistency, and added Inter-Layer Dependency columns to Tables 4 and 5 (and minor consistency fixes). Editorials to better align with the latest ICS template. Added a Publication Number column and assigned publication number 3 to the previous v1.1.1. Consistency checker fixes. |
| | 1.1.1 edition 3 | 2021-05-26 | Approved by BTI on 2021-05-06. Prepared for edition 3 publication. |
| | 1.1.1ed4r00 | 2021-10-12 | TSE 17486 (rating 1): Added “otherwise” to C.1 of Table 1. |
| | 1.1.1 edition 4 | 2021-11-24 | Approved by BTI on 2021-11-08. Prepared for edition 4 publication. |

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