

Current Time Service (CTS)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

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1 General principles

1.1 Implementation Under Test (IUT) identification

Using the Bluetooth SIG qualification tool, the implementer is expected to declare details about what will be implemented.

1.2 Enforcement of inter-layer dependencies

This ICS includes one or more tables with inter-layer dependencies (ILDs). ILDs are used for specification requirements that are dependent on other supporting specifications. ILDs can refer to an individual ICS item in a separate layer (individual ILD), or it can refer to the full layer (full-layer ILD).

ILDs residing in an X2Core layer will be enforced from the Bluetooth SIG qualification tool in the following conditions, depending on where the referred ILD is residing:

Referred ILD resides in	Individual ILD	Full-layer ILD
Controller layer	Core-Complete configuration, or Referred layer is supported	N/A
Lower HCI layer	HCI is supported	N/A
Upper HCI layer	Core-Host configuration, or UHCI is supported	N/A
Host layer	Core-Host configuration, or Core-Complete configuration, or Referred layer is supported	N/A
X2Core layer	Core-Host configuration, or Core-Complete configuration, or Referred layer is supported	Core-Host configuration, or Core-Complete configuration

Table 1.1: Enforcement of an ILD within the Bluetooth SIG qualification tool

2 ICS declarations

2.1 Versions

Table 0: X.Y Versions

Item	Version	Reference	Status
1	CTS v1.0**	[2]	Deprecated 2022-02-01. Withdrawn 2023-02-01.
2	CTS v1.1	[3]	C.1

C.1: Mandatory.

2.2 Transports

Table 1: Transport Requirements

Item	Transport	Reference	Status
1	Service supported over BR/EDR	[3] 1.5	C.1, C.3
2	Service supported over LE	[3] 1.5	C.2, C.3

C.1: Excluded for this Service IF CORE 41/2 “LE Core Configuration”.

C.2: Excluded for this Service IF CORE 41/1 “BR/EDR Core Configuration”.

C.3: Mandatory to support at least one.

2.3 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	[3] 3.1.2	C.1
2	External Reference Time update	[3] 3.1.2	C.1
3	Time Zone change	[3] 3.1.2	C.1
4	DST offset change	[3] 3.1.2	C.1

C.1: Mandatory to support at least one.

2.4 Service requirements

Table 3: Service Requirements – Current Time Service

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

** Deprecated versions may not appear in the Bluetooth SIG qualification tool after the deprecation date. TCRLs published after this date will not allow the use of deprecated versions.

Item	Capability	Reference	Status
7	Reference Time Information Characteristic	[3] 3.3	O
8	Read Reference Time Information Characteristic	[3] 3.3	C.2
9	Current Time Characteristic, Configure to enable/disable Notification	[3] 3.1.2	M
10	Current Time Characteristic, Notify disabled	[3] 3.1.2	M
11	Current Time Characteristic, Notify by Manual Change	[3] 3.1.2.1	C.3
12	Current Time Characteristic, Notify by Time Zone Change	[3] 3.1.2.3	C.4
13	Current Time Characteristic, Notify by DST Change	[3] 3.1.2.4	C.5
14	Current Time Characteristic, Notify by Reference Time Change	[3] 3.1.2.2	C.6
15	Current Time Characteristic, Notify by “Get Reference Update” command, Reference Time Change with the Reference Time Update service	[3] 3.1.2.2	C.8
16	Current Time Characteristic Write	[3] 3.1.3	O
17	Local Time Information Characteristic Write	[3] 3.2.2	O

- C.1: Mandatory IF CTS 3/5 “Local Time Information Characteristic”, otherwise Excluded.
- C.2: Mandatory IF CTS 3/7 “Reference Time Information Characteristic”, otherwise Excluded.
- C.3: Mandatory IF CTS 2/1 “Manual setting”, otherwise Excluded.
- C.4: Mandatory IF CTS 2/3 “Time Zone change”, otherwise Excluded.
- C.5: Mandatory IF CTS 2/4 “DST offset change”, otherwise Excluded.
- C.6: Mandatory IF CTS 2/2 “External Reference Time update”, otherwise Excluded.
- C.7: No longer used.
- C.8: Optional IF CTS 2/2 “External Reference Time update”, otherwise Excluded.

2.5 GATT requirements

Table 4: GATT Requirements

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No longer used	N/A	N/A	N/A
1a	GATT Server over BR/EDR	[3] 1.4	C.1	[1] GATT 1a/4
1b	GATT Server over LE	[3] 1.4	C.2	[1] GATT 1a/3
2	Single Notification	[3] 1.4	M	[1] GATT 4/17
3	Read Characteristic Descriptors	[3] 1.4	M	[1] GATT 4/19
4	Write Characteristic Descriptors	[3] 1.4	M	[1] GATT 4/21
5	Write Characteristic Value	[3] 1.4	O	[1] GATT 4/14

- C.1: Mandatory IF CTS 1/1 “Service supported over BR/EDR”, otherwise not defined.
- C.2: Mandatory IF CTS 1/2 “Service supported over LE”, otherwise not defined.

2.6 SDP requirements

Table 5: SDP Requirements

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

Item	Capability	Reference	Status
1	SDP record present for CTS	[3] 4	M
2–3	No longer used	N/A	N/A

3 References

- [1] ICS Proforma for Generic Attribute Profile (GATT)
- [2] Current Time Service Specification, Version 1.0
- [3] Current Time Service Specification, Version 1.1

4 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.
	p4r00–r01	2023-09-20 – 2023-12-11	TSE 23662 (rating 2): Resolved GATT and SDP inter-layer dependencies. In Table 0, updated the Status value for Item 1, updated C.2, and deleted C.3. In Table 1, updated the Reference values for Items 1 and 2, marked C.1 and C.2 as no longer used, and updated C.3. In Table 2, updated the Reference values for Items 1–4 and updated C.1. In Table 3, deleted the introductory note, updated the Reference values throughout, updated the Status value for Items 16–17, and marked C.7 as no longer used. In Table 4, marked Item 1 as no longer used, added Items 1a and 1b, updated the Reference values throughout, updated the Status value for Item 5, and updated the conditionals. In Table 5, deleted the ILD column, updated the Capability and Reference values for

Publication Number	Revision Number	Date	Comments
			Item 1 and marked Items 2–3 as no longer used. Updated the references. Made editorial edits to align the document with the latest ICS template. Updated the copyright page to align with v2 of the DNMD.
4	p4	2024-07-01	Approved by BTI on 2024-04-21. Prepared for TCRL 2024-1 publication.
	p5r00	2025-04-30	TSE 27322 (rating 1): In Table 1, updated the Status value for CTS 1/1 and CTS 1/2 and added conditions C.1 and C.2. Updated the capability for CTS 4/2. Incorporated editorials to align the document with the latest ICS template, including updates to Section 1 and the addition of a section heading for the ICS declarations section.
5	p5	2025-07-08	Approved by BTI on 2025-06-15. Prepared for TCRL pkg100 publication.

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