

Time Profile (TIP)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

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1 Identification of the implementation

1.1 Implementation Under Test (IUT) identification

Identification of the Implementation Under Test (IUT) is to 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 is named in the Declaration of Compliance: Summary of Selected Specifications in Implementation.

1.2 Versions

Table 0: Major Versions (X.Y)

Item	Version	Reference	Status
1	TIP v1.0	[1]	M

1.3 Roles

Table 1: Role Requirements

Item	Role	Reference	Status
1	Time Server	[1] 2.1	C.1
2	Time Client	[1] 2.1	C.1

C.1: Mandatory to support at least one of TIP 1/1 “Time Server” OR TIP 1/2 “Time Client”.

1.4 Transports

Table 2: Transport Requirements

Item	Transport	Reference	Status
1	Profile supported over BR/EDR	[1] 2.5	C.1
2	Profile supported over LE	[1] 2.5	M

C.1: Excluded for this Profile.

1.5 Time Server Role

1.5.1 Services – Time Server Role

Table 3: Services – Time Server Role

Prerequisite: TIP 1/1 “Time Server”

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Current Time Service	[1] 3.1	M	[2] CTS 3/1
2	Next DST Change Service	[1] 3.2	O	[4] NDCS 2/1
3	Reference Time Update Service	[1] 3.3	O	[3] RTUS 2/1

1.5.2 Features – Time Server Role

Table 4: Features – Time Server Role

Prerequisite: TIP 1/1 “Time Server”

Item	Capability	Reference	Status
1	Verify Bond Status on Reconnection	[1] 5.2.3	M



1.5.3 GAP Requirements – Time Server Role

Table 5: GAP Requirements – Time Server Role

Prerequisite: TIP 1/1 “Time Server”

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Central	[1] 2.4	M	[6] GAP 5/4 or GAP 38/4
2	Peripheral	[1] 2.4	O	[6] GAP 5/3 or GAP 38/3
3	Bondable mode (Central)	[1] 5.2.2	M	[6] GAP 34/2
4	Bondable mode (Peripheral)	[1] 5.1.2	C.1	[6] GAP 24/2
5	LE security mode 1 (Central)	[1] 6	M	[6] GAP 35/1
6	LE security mode 1 (Peripheral)	[1] 6	C.1	[6] GAP 25/1
7	Limited discoverable mode (Peripheral)	[1] 5.1.1	C.1	[6] GAP 22/2
8	Unauthenticated Pairing (LE security mode 1 level 2) (Central)	[1] 6	M	[6] GAP 35/8
9	Unauthenticated Pairing (LE security mode 1 level 2) (Peripheral)	[1] 6	C.2	[6] GAP 25/8
10	Authenticated Pairing (LE security mode 1 level 3) (Central)	[1] 6	M	[6] GAP 35/7
11	Authenticated Pairing (LE security mode 1 level 3) (Peripheral)	[1] 6	C.2	[6] GAP 25/7

C.1: Mandatory IF TIP 5/2 “Peripheral”, otherwise not defined.

C.2: Mandatory to support at least one of TIP 5/9 “Unauthenticated Pairing (LE security mode 1 level 2) (Peripheral)” OR TIP 5/11 “Authenticated Pairing (LE security mode 1 level 3) (Peripheral)” IF TIP 5/2 “Peripheral”, otherwise not defined.

Table 6: No longer used

1.6 Time Client Role

Table 7: No longer used

1.6.1 Discover Services and Characteristics – Time Client Role

Table 8: Discover Services and Characteristics – Time Client Role

Prerequisite: TIP 1/2 “Time Client”

Item	Capability	Reference	Status
1	Discover Current Time Service	[1] 4.1	M
2	Discover Next DST Change Service	[1] 4.1	O
3	Discover Reference Time Update Service	[1] 4.1	O
4	Discover Current Time characteristic: Current Time	[1] 4.2.1	M



Item	Capability	Reference	Status
5	Discover Current Time characteristic: Current Time - Client Characteristic Configuration Descriptor	[1] 4.2.1	M
6	Discover Current Time characteristic: Local Time Information	[1] 4.2.1	O
7	Discover Current Time characteristic: Reference Time Information	[1] 4.2.1	O
8	Discover DST Change characteristic: Time with DST	[1] 4.2.2	C.1
9	Discover Reference Time Update characteristic: Time Update Control Point	[1] 4.2.3	C.2
10	Discover Reference Time Update characteristic: Time Update State	[1] 4.2.3	C.2

C.1: Mandatory IF TIP 8/2 “Discover Next DST Change Service”, otherwise Excluded.

C.2: Mandatory IF TIP 8/3 “Discover Reference Time Update Service”, otherwise Excluded.

1.6.2 Features – Time Client Role

Table 9: Features – Time Client Role

Prerequisite: TIP 1/2 “Time Client”

Item	Capability	Reference	Status
1	Read Current Time characteristic	[1] 4.3	M
2	Current Time characteristic configuration with 0x0001	[1] 4.4	O
3	Notify Current Time characteristic	[1] 4.5	O
4	Read Local Time information characteristic	[1] 4.6	C.1
5	Read Reference Time Information characteristic	[1] 4.7	C.1
6	Read Time with DST characteristic	[1] 4.8	C.1
7	Read Time Update State characteristic	[1] 4.9	C.2
8	Write without Response - Time Update Control Point characteristic	[1] 4.10	C.2
9	Verify Bond Status on Reconnection	[1] 5.2.3	C.3

C.1: Mandatory IF TIP 8/2 “Discover Next DST Change Service”, otherwise Optional.

C.2: Mandatory IF TIP 8/3 “Discover Reference Time Update Service”, otherwise Optional.

C.3: Mandatory IF TIP 11/2 “Central”, otherwise Excluded.

1.6.3 GATT Requirements – Time Client Role

Table 10: GATT Requirements – Time Client Role

Prerequisite: TIP 1/2 “Time Client”

Item	Capability	Reference	Status	Inter-Layer Dependency
1	GATT Client over LE	[1] 2.1	M	[5] GATT 1a/1
2	No longer used	N/A	N/A	N/A
3	Discover All Primary Services	[1] 7	C.2	[5] GATT 3/2



Item	Capability	Reference	Status	Inter-Layer Dependency
4	Discover Primary Services by Service UUID	[1] 7	C.2	[5] GATT 3/3
5	Discover All Characteristics of a Service	[1] 7	C.3	[5] GATT 3/5
6	Discover Characteristics by UUID	[1] 7	C.3	[5] GATT 3/6
7	Discover All Characteristic Descriptors	[1] 7	M	[5] GATT 3/7
8	Read Characteristic Value	[1] 7	M	[5] GATT 3/8
9	Write without Response	[1] 7	C.1	[5] GATT 3/12
10	Notifications	[1] 7	C.4	[5] GATT 3/17
11	No longer used	N/A	N/A	N/A
12	Write Characteristic Descriptors	[1] 7	C.4	[5] GATT 3/21

C.1: Mandatory IF TIP 9/8 “Write without Response - Time Update Control Point characteristic”, otherwise Optional.

C.2: Mandatory to support at least one of TIP 10/3 “Discover All Primary Services” OR TIP 10/4 “Discover Primary Services by Service UUID”.

C.3: Mandatory to support at least one of TIP 10/5 “Discover All Characteristics of a Service” OR TIP 10/6 “Discover Characteristics by UUID”.

C.4: Mandatory IF TIP 9/3 “Notify Current Time characteristic”, otherwise Optional.

1.6.4 GAP Requirements – Time Client Role

Table 11: GAP Requirements – Time Client Role

Prerequisite: TIP 1/2 “Time Client”

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Peripheral	[1] 2.34	M	[6] GAP 5/3 or GAP 38/3
2	Central	[1] 2.4	O	[6] GAP 5/4 or GAP 38/4
3	Bondable mode (Peripheral)	[1] 5.1.2	M	[6] GAP 24/2
4	Bondable mode (Central)	[1] 5.2.2	C.1	[6] GAP 34/2
5	LE security mode 1 (Peripheral)	[1] 6	M	[6] GAP 25/1
6	LE security mode 1 (Central)	[1] 6	C.1	[6] GAP 35/1
7	Limited discoverable mode (Peripheral)	[1] 5.1.1	M	[6] GAP 22/2
8	Unauthenticated Pairing (LE security mode 1 level 2) (Central)	[1] 6	C.1	[6] GAP 35/8
9	Unauthenticated Pairing (LE security mode 1 level 2) (Peripheral)	[1] 6	C.2	[6] GAP 25/8
10	Authenticated Pairing (LE security mode 1 level 3) (Central)	[1] 6	C.1	[6] GAP 35/7
11	Authenticated Pairing (LE security mode 1 level 3) (Peripheral)	[1] 6	C.2	[6] GAP 25/7

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- C.1: Mandatory IF TIP 11/2 “Central”, otherwise not defined.
- C.2: Mandatory to support at least one of TIP 11/9 “Unauthenticated Pairing (LE security mode 1 level 2) (Peripheral)” OR TIP 11/11 “Authenticated Pairing (LE security mode 1 level 3) (Peripheral)”.

Table 12: No longer used

2 References

- [1] Time Profile Specification, Version 1.0
- [2] ICS Proforma for Current Time Service (CTS)
- [3] ICS Proforma for Reference Time Update Service (RTUS)
- [4] ICS Proforma for Next DST Change Service (NDCS)
- [5] ICS Proforma for Generic Attribute Profile (GATT)
- [6] ICS Proforma for Generic Access Profile (GAP)

3 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	1.0.0	2011-09-15	Approved by the Bluetooth SIG Board of Directors
	1.0.1r0	2011-11-14	TSE 4552: Table 2, 5, 10, 11 to align with new LE profiles/standards and BTI standards
1	1.0.1	2012-03-30	Prepare for publication.
	1.0.2r0	2012-05-21	TSE 4629: Update Table 9/2 feature description
2	1.0.2	2012-07-24	Prepare for publication.
	1.0.3r00	2016-11-01	TSE 8022: Table 0 added. "References" section updated. Standardized headings and table titles throughout. Tables standardized throughout (editorial updates): table end notes (Tables 1, 5, 8-12); "Capabilities" column capitalization (Tables 5-6, 11); "References" column (Tables 6 and 12). Template updated.
3	1.0.3	2016-12-13	Approved by BTI. Prepared for TCRL 2016-2 publication.
	1.0.3 edition 2r00	2018-11-26	Editorial changes only. Template updated. Revision History and contributors moved to the end of the document.
	1.0.3 edition 2	2020-01-10	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.
	p4r00–r02	2022-10-27 – 2022-11-14	TSE 20360 (rating 3): Added missing ILD reference for GAP limited discoverable mode. Corrected GATT ILD references. Corrected GATT status entries. Updated to align with current ICS conventions/template. Removed Support columns and "is supported" language. In Table 0, updated the table title and reference. In Table 1, updated the table title, references, and C.1. In Table 2, updated references. In Table 3, updated the prerequisite, capabilities, and references and added an ILD column. In Tables 4 and 7–9, updated the prerequisite and references. In Table 5, updated the prerequisite, reference, and C.1; added an ILD column, Items 7–11, and C.2. Deleted Tables 6 and 12 (SM requirements) because they are no longer used. In Table 10, updated capabilities, references, and status; marked Items 2 and 11 as no longer used; added an ILD column and C.4; and updated C.1–C.3. Updated the references list. Added a Publication Number column to the Revision History. Revised the document numbering convention, setting the last release publication of 1.0.3 as p3. Performed additional template-related formatting fixes. Replaced the Bluetooth logo in the footer and updated the copyright page to align with v2 of the DNMD.

Publication Number	Revision Number	Date	Comments
4	p4	2023-02-07	Approved by BTI on 2022-12-28. Prepared for TCRL 2022-2 publication.

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