

Time Profile (TIP)

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	TIP v1.0	[1]	M

2.2 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.

2.3 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	C.2, C.3

C.1: Excluded for this Profile.

C.2: Excluded for this Profile IF CORE 41/1 "BR/EDR Core Configuration" OR CORE 40/1 "Core-Controller".

C.3: Mandatory for this Profile.

2.4 Time Server role

2.4.1 Services (Time Server)

Table 3: Services (Time Server)

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

2.4.2 Features (Time Server)

Table 4: Features (Time Server)

Prerequisite: TIP 1/1 “Time Server”

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

2.4.3 GAP requirements (Time Server)

Table 5: GAP Requirements (Time Server)

Prerequisite: TIP 1/1 “Time Server”

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Central	[1] 2.4	M	[6] GAP 5/4
2	Peripheral	[1] 2.4	O	[6] GAP 5/3
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 IF TIP 5/2 “Peripheral”, otherwise not defined.

Table 6: No longer used

2.5 Time Client role

Table 7: No longer used



2.5.1 Discover Services and Characteristics (Time Client)

Table 8: Discover Services and Characteristics (Time Client)

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
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.

2.5.2 Features – Time Client role

Table 9: Features (Time Client)

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.



2.5.3 GATT requirements (Time Client)

Table 10: GATT Requirements (Time Client)

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
4	Discover Primary Service 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	Single Notification	[1] 7	C.4	[5] GATT 3/17
11	No longer used	N/A	N/A	N/A
12	Write Characteristic Descriptor	[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.

C.3: Mandatory to support at least one.

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

2.5.4 GAP requirements (Time Client)

Table 11: GAP Requirements (Time Client)

Prerequisite: TIP 1/2 "Time Client"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Peripheral	[1] 2.34	M	[6] GAP 5/3
2	Central	[1] 2.4	O	[6] GAP 5/4
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



Item	Capability	Reference	Status	Inter-Layer Dependency
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

C.1: Mandatory IF TIP 11/2 "Central", otherwise not defined.

C.2: Mandatory to support at least one.

Table 12: No longer used

3 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)

4 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.
	p4ed2r00–r02	2025-07-11 – 2025-07-16	TSE 27363 (rating 1): Updated the Status for TIP 2/2 and added conditions C.2 and C.3.
	p4 edition 2	2025-08-05	Approved by BTI on 2025-08-05. Prepared for edition 2 publication.
	p5r00	2025-08-14	TSE 27566 (rating 1): Updated the ILD column for Items 5/1, 5/2, 11/1, and 11/2 to delete references to GAP Table 38.
5	p5	2025-11-04	Approved by BTI on 2025-10-02. Prepared for TCRL pkg101 publication.
	p6r00–r01	2025-12-04 – 2026-01-09	TSE 28169 (rating 1): Updated the conditions in the transport table to make sure the layer is excluded when the design is an implementation of the Core-Controller Configuration by adding "OR CORE 40/1 "Core-Controller"" to an already excluded transport based on Core Configuration support.
6	p6	2026-02-17	Approved by BTI on 2026-01-21. Prepared for TCRL pkg102 publication.

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