Blood Pressure Service (BLS)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

- **Revision:** BLS.ICS.p10
- **Revision Date:** 2026-02-17
- **Prepared By:** Medical Devices Working Group
- **Published during TCRL:** TCRL.pkg102

Contents

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	BLS v1.0	[1]	Deprecated 2023-02-01. Withdrawn 2024-02-01.
2	BLS v1.1	[4]	C.3, C.4

C.1–C.2: No longer used.

C.3: Mandatory.

C.4: Can only be supported with an active X.Y.Z version after Deprecation or Withdrawal. Deprecated 2023-02-01. Withdrawn 2025-02-01.

Table 0b: X.Y.Z Versions

Item	Version	Reference	Status
1	BLS v1.1.1	[4]	C.1

C.1: Mandatory IF BLS 0/2 "BLS v1.1", otherwise Excluded.

2.2 Transports

Table 1: Transport Requirements

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

C.1: Excluded for this Service.

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

C.3: Mandatory for this Service.

2.3 Service requirements

Table 2: Service Requirements

Item	Capability	Reference	Status
1	Blood Pressure Service	[1] 2	M
2	Blood Pressure Measurement Characteristic	[1] 3.1	M
3	Time Stamp field of Blood Pressure Measurement Characteristic	[1] 3.1.1.3	C.1
4	Pulse Rate field of Blood Pressure Measurement Characteristic	[1] 3.1.1.4	O
5	User ID field of Blood Pressure Measurement Characteristic	[1] 3.1.1.5	C.2
6	Measurement Status field of Blood Pressure Measurement Characteristic	[1] 3.1.1.6	O

Item	Capability	Reference	Status
7	Intermediate Cuff Pressure Characteristic	[1] 3.2	O
8	Time Stamp field of Intermediate Cuff Pressure Characteristic	[1] 3.2.1.3	C.4
9	Pulse Rate field of Intermediate Cuff Pressure Characteristic	[1] 3.2.1.4	C.4
10	User ID field of Intermediate Cuff Pressure Characteristic	[1] 3.2.1.5	C.3
11	Measurement Status field of Intermediate Cuff Pressure Characteristic	[1] 3.2.1.6	C.4
12	Blood Pressure Feature Characteristic	[1] 3.3	M
13	Stored Measurements	[1] 3.4 [4] 3.8	C.5
14	Multi-user Support	[1] 3.1.1.5, 3.2.1.5 [4] 3.4, 3.5	O
15	Multiple Bond	[1] 3.3.1 [4] 3.3.1.6	O
16	Enhanced Blood Pressure Service	[4] 3	O
17	E2E-CRC	[4] 3.3.1.7	C.7
18	User Data Service	[4] 3.3.1.8	C.8
19	User Facing Time	[4] 3.3.1.9	C.8
20	Enhanced Blood Pressure Measurement Characteristic	[4] 3.4	C.8, C.9
21	Enhanced Intermediate Cuff Pressure Characteristic	[4] 3.5	O
22	RACP Characteristic	[4] 3.6	C.8
23	Blood Pressure Record Characteristic	[4] 3.7	C.10
24	Epoch Start 2000 Flag	[4] 3.4.1.1, 3.5.1.1	O
25	Indications for changes of supported features	[5] 3.3.1	M

C.1:   Mandatory IF BLS 2/13 "Stored Measurements", otherwise Optional.

C.2:   Mandatory IF BLS 2/14 "Multi-user Support", otherwise Optional.

C.3:   Mandatory IF BLS 2/7 "Intermediate Cuff Pressure Characteristic" AND BLS 2/14 "Multi-user Support", otherwise Optional.

C.4:   Optional IF BLS 2/7 "Intermediate Cuff Pressure Characteristic", otherwise Excluded.

C.5:   Mandatory IF BLS 2/22 "RACP Characteristic", otherwise Optional.

C.6:   No longer used.

C.7:   Optional IF BLS 2/23 "Blood Pressure Record Characteristic", otherwise Excluded.

C.8:   Mandatory to support at least one IF BLS 2/16 "Enhanced Blood Pressure Service", otherwise Excluded.

C.9:   Mandatory IF BLS 2/19 "User Facing Time", otherwise Optional.

C.10: Mandatory IF BLS 2/22 "RACP Characteristic", otherwise Excluded.

Table 2a: Service Requirements – Enhanced Blood Pressure Measurement

Prerequisite: BLS 2/20 "Enhanced Blood Pressure Measurement Characteristic"

Item	Capability	Reference	Status
1	Time Stamp field of Enhanced Blood Pressure Measurement Characteristic	[4] 3.4, 3.4.1.3	C.1
2	Pulse Rate field of Enhanced Blood Pressure Measurement Characteristic	[4] 3.4, 3.4.1.4	O
3	User ID field of Enhanced Blood Pressure Measurement Characteristic	[4] 3.4, 3.4.1.5	C.2
4	Measurement Status field of Enhanced Blood Pressure Measurement Characteristic	[4] 3.4, 3.4.1.6	O
5	User Facing Time field of Enhanced Blood Pressure Measurement Characteristic	[4] 3.4, 3.4.1.7	C.3

C.1:   Mandatory IF BLS 2/13 "Stored Measurements" OR BLS 2/22 "RACP Characteristic", otherwise Optional.

C.2:   Mandatory IF BLS 2/14 "Multi-user Support", otherwise Optional.

C.3:   Optional IF BLS 2/19 "User Facing Time", otherwise Excluded.

Table 2b: Service Requirements – Enhanced Intermediate Cuff Pressure

Prerequisite: BLS 2/21 "Enhanced Intermediate Cuff Pressure Characteristic"

Item	Capability	Reference	Status
1	Time Stamp field of Enhanced Intermediate Cuff Pressure Characteristic	[4] 3.5, 3.5.1.3	O
2	Pulse Rate field of Enhanced Intermediate Cuff Pressure Characteristic	[4] 3.5, 3.5.1.4	O
3	User ID field of Enhanced Intermediate Cuff Pressure Characteristic	[4] 3.5, 3.5.1.5	C.1
4	Measurement Status field of Enhanced Intermediate Cuff Pressure Characteristic	[4] 3.5, 3.5.1.6	O
5	User Facing Time field of Enhanced Intermediate Cuff Pressure Characteristic	[4] 3.5, 3.5.1.7	C.2

C.1:   Mandatory IF BLS 2/14 "Multi-user Support", otherwise Excluded.

C.2:   Optional IF BLS 2/19 "User Facing Time", otherwise Excluded.

Table 2c: Service Requirements – Record Access Control Point

Prerequisite: BLS 2/22 "RACP Characteristic"

Item	Capability	Reference	Status
1	Report Stored Records	[4] 3.6.2.1, 3.6.3.1	M
2	Report Number of Stored Records	[4] 3.6.2.1, 3.6.3.2	M
3	Delete Stored Records	[4] 3.6.2.1, 3.6.3.3	O
4	Abort Operation	[4] 3.6.2.1, 3.6.3.4	O

Table 2d: Indications for changes of supported features

Prerequisite: BLS 2/25 "Indications for changes of supported features"

Item	Capability	Reference	Status
1	Changeable Blood Pressure Feature	[5] 3, 3.3.1	O
2	Blood Pressure Feature characteristic indication	[5] 3, 3.3.1	C.1

C.1:   Mandatory IF BLS 2d/1 "Changeable Blood Pressure Feature" AND BLS 4/2 "Bonding procedure", otherwise Excluded.

2.4   GATT requirements

Table 3: GATT Requirements

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No longer used	N/A	N/A	N/A
2	GATT Server over LE	[1] 1.5	M	[2] GATT 1a/3
3	Single Notification	[1] 1.4	C.1	[2] GATT 4/17
4	Indication	[1] 1.4	M	[2] GATT 4/18
5	Read Characteristic Descriptor	[1] 1.4	M	[2] GATT 4/19
6	Write Characteristic Descriptor	[1] 1.4	M	[2] GATT 4/21

C.1:   Mandatory IF BLS 2/7 "Intermediate Cuff Pressure Characteristic" OR BLS 2/21 "Enhanced Intermediate Cuff Pressure Characteristic" OR BLS 2/23 "Blood Pressure Record Characteristic", otherwise not defined.

2.5   GAP requirements

Table 4: GAP Requirements

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Bondable mode	[1] 3	C.1	[3] GAP 24/2
2	Bonding procedure	[1] 3	O	[3] GAP 24/3

C.1:   Mandatory IF BLS 4/2 "Bonding procedure", otherwise not defined.

3 References

[1] Blood Pressure Service Specification, Version 1.0 or later

[2] ICS Proforma for Generic Attribute Profile (GATT)

[3] ICS Proforma for Generic Access Profile (GAP)

[4] Blood Pressure Service Specification, Version 1.1 or later

[5] Blood Pressure Service Specification, Version 1.1.1

4 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	1.0.0	2011-10-25	Adopted by the Bluetooth SIG Board of Directors
	1.0.1r00	2015-10-01	TSE 6611: Corrected conditionals in Table 2 for items 2/8, 2/9, 2/10, 2/11.
1	1.0.1	2015-12-22	Prepared for TCRL 2015-2 publication.
	1.0.2r00	2016-04-06	TSE 6996: Table numbering updated. Field deleted.
2	1.0.2	2016-07-13	Prepared for TCRL 2016-1 publication.
	1.0.3r00	2018-03-14	TSE 10482 (rating 3): Converted template. Added a Table 0. Revised reference for item 2/14. Added new item 2/15.
3	1.0.3	2018-06-27	Approved by BTI. Prepared for TCRL 2018-1 publication.
	1.0.4r00	2018-10-02	TSE 11004 (rating 1): Deleted reference "3.3" from Table 2, Item 3.
4	1.0.4	2018-11-21	Approved by BTI. Prepared for TCRL 2018-2 publication.
	1.0.5r00–r01	2019-04-02 – 2019-06-18	TSE 11364 (rating 1): Changed cross reference in Version table from note [1] to note [2].
5	1.0.5	2019-07-29	Approved by BTI. Prepared for TCRL 2019-1 publication.
	p6r00–r12	2018-06-10 – 2020-11-26	Updated based on BLS v1.1 CR r03 specification. Updated based on BLS v1.1 CR r04 specification. Updated references based on BLS v1.1 CR r07. Updated ICS based on BLS v1.1 CR r08, introduced Table 2a, 2b and resolved BTI comments. Updated ICS based on BLS v1.1 PS. Removed from Table 2d the Operator *Equal to* as the Operator has been removed from the BLS v1.1 specification. Updated the ICS tables by removing the "Support" columns and for Tables 1 and 3 introduced the "Inter-Layer Dependency" column. Updated C.6 in Table 2, Service Requirements, to read "..otherwise Excluded".
6	p6	2020-12-22	Set publication number for previous v1.0.5 to p5. Updated to incorporate test issue 16207. Template-related editorials. Approved by BTI on 2020-07-06. BLS v1.1 adopted by BoD on 2020-12-15. Prepared for publication.

Publication Number	Revision Number	Date	Comments
	p7r00–r06	2021-02-22 – 2021-12-14	TSE 16862 (rating 4): Added new ICS item 0b/1 for BLS v1.1.1 and new conditional C.3 in Table 0 for BLS v1.1. New Table 4 added for GAP inter-layer dependencies. Added new ICS item 2/25 and table (Table 2d) for E16461 - proper handling of changing supported features by characteristic indication. Added a reference for Blood Pressure Service Specification v1.1.1. TSE 17178 (rating 1): Updated Table 0 for the scheduled deprecation of BLP v1.0. TSE 17683 (rating 1): 2021 Deprecation and Withdrawal Adjustments. Updated Deprecation and Withdrawal dates in C.2 of Table 0 for BLS v1.0 after the 5 October 2021 Bluetooth SIG Board of Directors (BoD) approval to make adjustments to previously BoD-approved D&W dates. Minor editorials to align with current template conventions. Updated to latest template and made other editorials, including updating the copyright page to align with v2 of the DNMD. Consistency checker fixes.
7	p7	2022-01-25	Approved by BTI on 2022-01-06. Prepared for TCRL 2021-2 publication.
	p8r00	2023-10-11	TSE 23348 (rating 2): Resolved GATT inter-layer dependencies. In Table 0, marked Item 1 as Deprecated, updated the Status value for Items 1 and 2, marked C.1 and C.2 as no longer used, and updated C.3 and C.4. In Table 0b, updated C.1. In Table 2, updated the Status value for Items 16 and 25, updated C.1–C.5 and C.7–C.10, marked C.6 as no longer used, and deleted C.11. In Table 3, marked Item 1 as no longer used and updated the Capability and ILD values for Item 2. Made editorial edits to align the document with the latest ICS template, including updates to section and table titles and removal of "is supported" language in conditionals. Deleted draft revision history comments prior to p0.
8	p8	2024-07-01	Approved by BTI on 2024-04-21. Prepared for TCRL 2024-1 publication.
	p9r00–r01	2025-04-29 – 2025-04-30	TSE 27293 (rating 1): In Table 0, updated condition C.4. Updated the Status value for BLS 1/2 and added conditions C.2 and C.3 in Table 1. 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.
9	p9	2025-07-08	Approved by BTI on 2025-06-15. Prepared for TCRL pkg100 publication.

Publication Number	Revision Number	Date	Comments
	p10r00–r01	2025-12-04 – 2025-12-30	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.
10	p10	2026-02-17	Approved by BTI on 2026-01-21. Prepared for TCRL pkg102 publication.