Generic Health Sensor Profile (GHSP)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

- **Revision:** GHSP.ICS.p2
- **Revision Date:** 2025-07-08
- **Prepared By:** Medical Devices Working Group
- **Published during TCRL:** TCRL.pkg100

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 0a: X.Y Versions

Prerequisite: GHSP 3/1 "GHS Server"

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

Table 1a: X.Y.Z Versions

Table number reserved but not yet in use.

Table 0b: X.Y Versions

Prerequisite: GHSP 3/2 "GHS Client"

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

Table 1b: X.Y.Z Versions

Table number reserved but not yet in use.

2.2 Transports

Table 2: Transport Requirements

Item	Transport	Reference	Status
1	Profile supported over BR/EDR	[1] 2.6	C.1, C.3
2	Profile supported over LE	[1] 2.6	C.2, C.3

C.1:   Excluded for this Profile IF CORE 41/2 "LE Core Configuration".
C.2:   Excluded for this Profile IF CORE 41/1 "BR/EDR Core Configuration".
C.3:   Mandatory to support at least one.

2.3 Roles

Table 3: Role Requirements

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

C.1:   Mandatory to support at least one.

2.4   GHS Server

2.4.1   Service and profile references

Table 4: Services and Profile Included in GHS Server

Prerequisite: GHSP 3/1 "GHS Server"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Generic Health Sensor Service	[1] 3.1	M	[3] GHSS
2	Device Information Service	[1] 3.2	M	[4] DIS
3	Elapsed Time Service	[1] 3.3	C.1	[5] ETS
4	Battery Service	[1] 3.4	O	[6] BAS
5	Reconnection Configuration Profile	[1] 3.5	O	[7] RCP
6	User Data Service	[1] 3.6	O	[9] UDS
7	Reconnection Configuration Service	[1] 3.5	O	[8] RCS

C.1:   Mandatory IF GHSP 5/8 "Report observations with time stamps", otherwise Optional.

2.4.2   GHS Service

Table 5: Main Features of GHS Service

Prerequisite: GHSP 3/1 "GHS Server"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Service UUID	[1] 3.1.1.1	C.1	[11] GAP 20a/1
2	Service Data	[1] 3.1.1.2	C.2	[11] GAP 20a/10
3	Local Name	[1] 3.1.1.3	C.1	[11] GAP 20a/2
4	LE GATT Security Levels	[1] 3.1.2	C.1	[11] GAP 27/11
5	Report live observations	[1] 3.1.3	O	[3] GHSS 3/2
6	Report temporarily stored observations	[1] 3.1.3	O	[3] GHSS 3/3
7	Report stored observations	[1] 3.1.3	O	[3] GHSS 3/4
8	Report observations with time stamps	[1] 3	C.3	N/A
9	Unique Device Identifier (UDI) assigned	[1] 3.2	O	N/A
10	Multiple users	[1] 3.6, 4.5.8	O	N/A
11	Multiple users with Concurrent Access	[1] 3.6, 4.5.8	C.4	N/A
12	Patient identifier	[1] 3.6	C.5	N/A
13	Support for Multiple Bonds	[1] 4.4.9	O	N/A
14	Support for Single Bond	[1] 4.4.9	O	N/A
15	Generation of observations for a user independent of consent	[1] 3.6, 4.5	C.4	N/A
16	LE GATT Security Levels characteristic in GHS Service	[1] 3.1.2	C.6	N/A
17	Delete Stored Records	[1] 4.4.9	O	[3] GHSS 7/3

C.1:   Optional IF GHSP 2/2 "Profile supported over LE", otherwise not defined.

C.2:   Mandatory IF GHSP 2/2 "Profile supported over LE", otherwise not defined.

C.3:   Mandatory IF GHSP 5/6 "Report temporarily stored observations" OR GHSP 5/7 "Report stored observations", otherwise Optional.

C.4:   Optional IF GHSP 5/10 "Multiple users", otherwise Excluded.

C.5:   Mandatory IF GHSP 4/6 "User Data Service", otherwise Optional.

C.6:   Excluded IF GHSP 5/4 "LE GATT Security Levels", otherwise Optional.

2.4.3 Device Information Service requirements

Table 6: Device Information Service Requirements

Prerequisite: GHSP 4/2 "Device Information Service"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Manufacturer Name String Characteristic	[1] 3.2	M	[4] DIS 2/2
2	Model Number String Characteristic	[1] 3.2	M	[4] DIS 2/3
3	Serial Number String Characteristic	[1] 3.2	C.1	[4] DIS 2/4
4	System ID Characteristic	[1] 3.2	C.1	[4] DIS 2/8
5	UDI for Medical Devices Characteristic	[1] 3.2	C.1, C.2	[4] DIS 2/12
6	Other DIS Characteristic	[1] 3.2	O	N/A

C.1:   Mandatory to support at least one.

C.2:   Optional IF GHSP 5/9 "Unique Device Identifier (UDI) assigned", otherwise not defined.

2.4.4 Elapsed Time Service requirements

Table 7: Elapsed Time Service Requirements

Prerequisite: GHSP 4/3 "Elapsed Time Service"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Current Elapsed Time characteristic with write	[1] 3.3	O	[5] ETS 4/2
2	Update Time Value Via UI	[1] 3.3	O	[5] ETS 3/7
3	TZ/DST offset	[1] 3.3	O	[5] ETS 3/4

2.4.5 Reconnection Configuration Profile requirements

Table 8: Reconnection Configuration Profile requirements

Prerequisite: GHSP 4/5 "Reconnection Configuration Profile"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Reconnection Configuration Server	[1] 3.5	M	[7] RCP 1/1

2.4.6   User Data Service requirements

Table 9: User Data Service Requirements

Prerequisite: GHSP 4/6 "User Data Service"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	First Name Characteristic	[1] 3.6	O	[9] UDS 4/4
2	Last Name Characteristic	[1] 3.6	O	[9] UDS 4/5

2.4.7   GAP requirements

Table 10: GAP Requirements

Prerequisite: GHSP 3/1 "GHS Server"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Peripheral	[1] 2.4	C.1	[11] GAP 5/3 OR GAP 38/3
2	Bondable mode	[1] 6.1	C.2	[11] GAP 24/2

C.1:   Mandatory IF GHSP 2/2 "Profile supported over LE", otherwise not defined.

C.2:   Optional IF GHSP 2/2 "Profile supported over LE", otherwise not defined.

2.5   GHS Client

2.5.1   Service and profile references

Table 11: Services and Profile Included in GHS Client

Prerequisite: GHSP 3/2 "GHS Client"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Discover Generic Health Sensor Service	[1] 4, 4.4	M	N/A
2	Discover Device Information Service	[1] 4, 4.8	M	N/A
3	Discover Elapsed Time Service	[1] 4, 4.6	O	N/A
4	Discover Battery Service	[1] 4, 4.9	O	N/A
5	Reconnection Configuration Profile	[1] 4, 4.7	O	[7] RCP
6	Discover User Data Service	[1] 4, 4.5	O	N/A

2.5.1.1   GHS Service requirements

Table 12: GHS Service Requirements

Prerequisite: GHSP 11/1 "Discover Generic Health Sensor Service"

Item	Capability	Reference	Status
1	Discover Health Sensor Features characteristic	[1] 4, 4.3	O

Item	Capability	Reference	Status
2	Discover Observation Schedule descriptor	[1] 4, 4.3	O
3	Discover Valid Range and Accuracy descriptor	[1] 4, 4.3	O
4	Discover Live Health Observations characteristic	[1] 4, 4.3	C.1
5	Discover Stored Health Observations characteristic	[1] 4, 4.3	C.2
6	Discover RACP characteristic	[1] 4, 4.3	C.2
7	Discover GHS Control Point characteristic	[1] 4, 4.3	C.1
8	Discover Observation Schedule Changed characteristic	[1] 4, 4.3	O

C.1:   Mandatory IF GHSP 13/14 "Live health observations", otherwise Excluded.

C.2:   Mandatory IF GHSP 13/15 "Stored health observations", otherwise Excluded.

2.5.1.2   Features GHS Client

Table 13: Features GHS Client

Prerequisite: GHSP 11/1 "Discover Generic Health Sensor Service"

Item	Capability	Reference	Status
1	Configure and receive Live Health Observations characteristic indications	[1] 4.4.5	C.1
2	Configure and receive Live Health Observations characteristic notifications	[1] 4.4.5	C.1
3	Configure and receive GHS Control Point characteristic indications	[1] 4.4.5	C.1
4	Configure and receive Stored Health Observations characteristic notifications	[1] 4.4.6	C.2
5	Configure and receive Stored Health Observations characteristic indications	[1] 4.4.6	C.2
6	Configure and receive RACP characteristic indications	[1] 4.4.6	C.2
7	Read Health Sensor Features characteristic	[1] 4.4.12.1	C.3
8	Read Long Health Sensor Features characteristic	[1] 4.4.12.1	C.3
9	Configure and receive Health Sensor Features characteristic indications	[1] 4.4.12.1	C.3
10	Read Valid Range and Accuracy descriptor	[1] 4.4.12.2	C.4
11	Configure and receive Observation Schedule Changed characteristic indications	[1] 4.4.12.3	C.5
12	Read Observation Schedule descriptors	[1] 4.4.12.3	C.6
13	Write Observation Schedule descriptor	[1] 4.4.12.3	C.6
14	Live health observations	[1] 4, 4.4	C.7
15	Stored health observations	[1] 4, 4.4	C.7

C.1:   Mandatory IF GHSP 12/4 "Discover Live Health Observations characteristic", otherwise Excluded.

C.2:   Mandatory IF GHSP 12/5 "Discover Stored Health Observations characteristic", otherwise Excluded.

C.3:   Optional IF GHSP 12/1 "Discover Health Sensor Features characteristic", otherwise Excluded.

C.4:   Optional IF GHSP 12/3 "Discover Valid Range and Accuracy descriptor", otherwise Excluded.

C.5:   Optional IF GHSP 12/8 "Discover Observation Schedule Changed characteristic", otherwise Excluded.

C.6:   Optional IF GHSP 12/2 "Discover Observation Schedule descriptor", otherwise Excluded.

C.7:   Mandatory to support at least one.

2.5.1.3   GHS RACP

Table 14: GHS RACP

Prerequisite: GHSP 12/6 "Discover RACP characteristic"

Item	Capability	Reference	Status
1	Report Number of Stored Records	[1] 4.4.9.2 [2] 3.4.2	M
2	Combined Report	[1] 4.4.9.3 [2] 3.4.2	M
3	Delete Stored Records	[1] 4.4.9.4 [2] 3.4.2	O
4	Abort Operation	[1] 4.4.9.5 [2] 3.4.2	O

Table 15: GHS RACP – Combined Report and Report Number of Stored Records Operators with respective Operand Filter Types

Prerequisite: GHSP 12/6 "Discover RACP characteristic"

Item	Capability	Reference	Status
1	All records Operator	[1] 4.4.8 [2] 3.4.2	M
2	Greater than or equal to Operator with Record Number Operand	[1] 4.4.8 [2] 3.4.2	M
3	Greater than or equal to Operator with Time Filter Operand	[1] 4.4.8 [2] 3.4.2	O
4	Less than or equal to Operator with Record Number Operand	[1] 4.4.8 [2] 3.4.2	O
5	Less than or equal to Operator with Time Filter Operand	[1] 4.4.8 [2] 3.4.2	C.1
6	Within range of (inclusive) Operator with Record Number Operand	[1] 4.4.8 [2] 3.4.2	O
7	Within range of (inclusive) Operator Time Filter Operand	[1] 4.4.8 [2] 3.4.2	C.2
8	First record Operator	[1] 4.4.8 [2] 3.4.2	O
9	Last record Operator	[1] 4.4.8 [2] 3.4.2	O

C.1:   Optional IF GHSP 15/4 "Less than or equal to Operator with Record Number Operand", otherwise Excluded.

C.2:   Optional IF GHSP 15/6 "Within range of (inclusive) Operator with Record Number Operand", otherwise Excluded.

Table 16: GHS RACP – Delete Stored Records Operators with respective Operand Filter Types

Prerequisite: GHSP 14/3 "Delete Stored Records"

Item	Capability	Reference	Status
1	All records Operator	[1] 4.4.8 [2] 3.4.2	M
2	Greater than or equal to Operator with Record Number Operand	[1] 4.4.8 [2] 3.4.2	O
3	Greater than or equal to Operator with Time Filter Operand	[1] 4.4.8 [2] 3.4.2	C.1
4	Less than or equal to Operator with Record Number Operand	[1] 4.4.8 [2] 3.4.2	O
5	Less than or equal to Operator with Time Filter Operand	[1] 4.4.8 [2] 3.4.2	C.2
6	Within range of (inclusive) Operator with Record Number Operand	[1] 4.4.8 [2] 3.4.2	O
7	Within range of (inclusive) Operator with Time Filter Operand	[1] 4.4.8 [2] 3.4.2	C.3
8	First record Operator	[1] 4.4.8 [2] 3.4.2	O
9	Last record Operator	[1] 4.4.8 [2] 3.4.2	O

C.1:   Optional IF GHSP 16/2 "Greater than or equal to Operator with Record Number Operand", otherwise Excluded.

C.2:   Optional IF GHSP 16/4 "Less than or equal to Operator with Record Number Operand", otherwise Excluded.

C.3:   Optional IF GHSP 16/6 "Within range of (inclusive) Operator with Record Number Operand", otherwise Excluded.

2.5.2   Device Information Service requirements

Table 17: Device Information Service Requirements

Prerequisite: GHSP 11/2 "Discover Device Information Service"

Item	Capability	Reference	Status
1	Discover Manufacturer Name String characteristic	[1] 4, 4.3	M
2	Discover Model Number String characteristic	[1] 4, 4.3	M
3	Discover Serial Number String characteristic	[1] 4, 4.3	M
4	Discover Firmware Revision String characteristic	[1] 4, 4.3	M
5	Discover System ID characteristic	[1] 4, 4.3	M
6	Discover Hardware Revision String characteristic	[1] 4, 4.3	O
7	Discover Software Revision String characteristic	[1] 4, 4.3	O
8	Discover UDI for Medical Devices characteristic	[1] 4, 4.3	M

2.5.3   Elapsed Time Service requirements

Table 18: Elapsed Time Service Requirements

Prerequisite: GHSP 11/3 "Discover Elapsed Time Service"

Item	Capability	Reference	Status
1	Discover Current Elapsed Time characteristic	[1] 4	O
2	Read Current Elapsed Time characteristic	[1] 4.6	O
3	Configure and receive Current Elapsed Time characteristic indications	[1] 4.6	O
4	Write to Current Elapsed Time characteristic	[1] 4.6	O

2.5.4   Battery Service requirements

Table 19: Battery Service Requirements

Prerequisite: GHSP 11/4 "Discover Battery Service"

Item	Capability	Reference	Status
1	Discover Battery Level characteristic	[1] 4	O
2	Discover Battery Level Status characteristic	[1] 4	O
3	Discover Battery Information characteristic	[1] 4	O
4	Read Battery Service characteristics	[1] 4.9	O
5	Configure and receive Battery Service characteristics for indications, notifications, or broadcast	[1] 4.9	O

2.5.5   Reconnection Configuration Profile requirements

Table 20: Reconnection Configuration Profile Requirements

Prerequisite: GHSP 11/5 "Reconnection Configuration Profile"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Reconnection Configuration Client	[1] 4, 4.7	O	[7] RCP 1/2

2.5.6   User Data Service requirements

Table 21: User Data Service Requirements

Prerequisite: GHSP 11/6 "Discover User Data Service"

Item	Capability	Reference	Status
1	Discover User Control Point characteristic	[1] 4, 4.5.5	M
2	Discover User Index characteristic	[1] 4, 4.5.2	M
3	Discover Registered User characteristic	[1] 4, 4.5.4	M
4	Discover Database Change Increment characteristic	[1] 4, 4.5.3	M

Table 22: Features of User Data Service

Prerequisite: GHSP 11/6 "Discover User Data Service"

Item	Capability	Reference	Status
1	Read UDS Characteristics	[1] 4.5.1	O
2	Write UDS Characteristics	[1] 4.5.1	O
3	Read Long UDS Characteristics	[1] 4.5.1	O
4	Write Long UDS Characteristics	[1] 4.5.1	O
5	Caching of Consent Code	[1] 4.5.1	O
6	Read User Index characteristic	[1] 4.5.2	O
7	Configure and receive Database Change Increment notifications	[1] 4.5.3	C.1
8	Read Database Change Increment characteristic	[1] 4.5.3	C.1
9	Write Database Change Increment characteristic	[1] 4.5.3	C.1
10	User Data Synchronization Feature	[1] 4.5.3, 4.5.7	C.2
11	Register New User	[1] 4.5.5.1, 4.5.5.2.1	M
12	Consent	[1] 4.5.5.1, 4.5.5.2.2	M
13	Delete User Data	[1] 4.5.5.1, 4.5.5.2.3	M
14	List All Users	[1] 4.5.5.1, 4.5.5.2.4	O
15	Delete User(s)	[1] 4.5.5.1, 4.5.5.2.5	O

C.1:   Mandatory IF GHSP 22/10 "User Data Synchronization Feature", otherwise Optional.

C.2:   Mandatory IF GHSP 22/2 "Write UDS Characteristics", otherwise Optional.

2.5.7   GATT requirements

Table 23: GATT Requirements

Prerequisite: GHSP 3/2 "GHS Client"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No longer used	N/A	N/A	N/A
1a	GATT Client over BR/EDR	[1] 2.1	C.5	[10] GATT 1a/2
1b	GATT Client over LE	[1] 2.1	C.6	[10] GATT 1a/1
2	Discover All Primary Services	[1] 4.1	C.1	[10] GATT 3/2
3	Discover Primary Services by Service UUID	[1] 4.1	C.1	[10] GATT 3/3
4	Discover All Characteristics of a Service	[1] 4.1	C.2	[10] GATT 3/5
5	Discover Characteristics by UUID	[1] 4.1	C.2	[10] GATT 3/6
6	Discover All Characteristic Descriptors	[1] 4.1	M	[10] GATT 3/7
7	Single Notification	[1] 4.1	M	[10] GATT 3/17
8	Indications	[1] 4.1	M	[10] GATT 3/18
9	Read Characteristic Descriptors	[1] 4.1	M	[10] GATT 3/19
10	Write Characteristic Descriptors	[1] 4.1	M	[10] GATT 3/21

Item	Capability	Reference	Status	Inter-Layer Dependency
11	Read Characteristic Value	[1] 4.1	M	[10] GATT 3/8
12	Write Characteristic Value	[1] 4.1	M	[10] GATT 3/14
13	Read Long Characteristic Values	[1] 4.1	C.3	[10] GATT 3/10
14	Write Long Characteristic Values	[1] 4.1	C.4	[10] GATT 3/15
15	Find Included Services	[1] 4.1	O	[10] GATT 3/4

C.1:   Mandatory to support at least one.

C.2:   Mandatory to support at least one.

C.3:   Mandatory IF GHSP 13/8 "Read Long Health Sensor Features characteristic" OR GHSP 22/3 "Read Long UDS Characteristics", otherwise not defined.

C.4:   Mandatory IF GHSP 22/4 "Write Long UDS Characteristics", otherwise not defined.

C.5:   Mandatory IF GHSP 2/1 "Profile supported over BR/EDR", otherwise not defined.

C.6:   Mandatory IF GHSP 2/2 "Profile supported over LE", otherwise not defined.

2.5.8   GAP requirements

Table 24: GAP Requirements

Prerequisite: GHSP 3/2 "GHS Client"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Central	[1] 2.4	C.1	[11] GAP 5/4 OR GAP 38/4
2	Bondable mode (LE)	[1] 6.2	C.2	[11] GAP 34/2
3	Bondable mode (BR/EDR)	[1] 6.3	C.3	[11] GAP 1/7
4	Initiation of general bonding	[1] 6.3	C.3	[11] GAP 3/5

C.1:   Mandatory IF GHSP 2/2 "Profile supported over LE", otherwise not defined.

C.2:   Optional IF GHSP 2/2 "Profile supported over LE", otherwise not defined.

C.3:   Optional IF GHSP 2/1 "Profile supported over BR/EDR", otherwise not defined.

3   References

[1]   Generic Health Sensor Profile Specification, Version 1.0

[2]   Generic Health Sensor Service Specification, Version 1.0

[3]   ICS Proforma for Generic Health Sensor Service (GHSS)

[4]   ICS Proforma for Device Information Service (DIS)

[5]   ICS Proforma for Elapsed Time Service (ETS)

[6]   ICS Proforma for Battery Service (BAS)

[7]   ICS Proforma for Reconnection Configuration Profile (RCP)

[8]   ICS Proforma for Reconnection Configuration Service (RCS)

[9]   ICS Proforma for User Data Service (UDS)

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

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

4 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	p0	2023-06-13	Approved by BTI on 2023-05-28. GHSP v1.0 adopted by the BoD on 2023-06-13. Prepared for initial publication.
	p1r00–r01	2024-03-20 – 2024-03-26	TSE 25100 (rating 2): In Table 5, added item GHSP 5/17, an ILD to GHSS 7/3.
1	p1	2024-07-01	Approved by BTI on 2024-04-21. Prepared for TCRL 2024-1 publication.
	p2r00–r01	2025-01-28 – 2025-02-18	TSE 27121 (rating 2): Updated status values and conditional C.1 and added conditionals C.2 and C.3 for Table 2. Marked item 1 as no longer used, added items 1a and 1b, updated item 7, and added conditionals C.5 and C.6 for Table 23.
2	p2	2025-07-08	Approved by BTI on 2025-06-15. Prepared for TCRL pkg100 publication.

Acknowledgments

Name	Company
Jörg Brakensiek	Bluetooth SIG, Inc.
Ismail Mohamud	Bluetooth SIG, Inc.
Erik Moll	Koninklijke Philips N.V.