Health Device Profile (HDP)

***Bluetooth*® Implementation Conformance Statement (ICS) Proforma**

- **Revision:** HDP.ICS.p8
- **Revision Date:** 2025-07-08
- **Prepared By:** BTI
- **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 0: X.Y Versions

Item	Version	Reference	Status
1	HDP v1.0**	[1]	Deprecated 2013-07-24. Withdrawn 2025-02-01.
2	HDP v1.1	[10]	M

2.2 Core Configuration

Table 0a: Core Configuration Requirements

Item	Core Configuration	Reference	Status
1	Profile supported over BR/EDR	[1] 2.1	C.1, C.3
2	Profile supported over LE	[1] 2.1	C.2

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

C.2: Excluded for this Profile.

C.3: Mandatory for this Profile.

2.3 Roles

Table 1: Role Requirements

Item	Role	Reference	Status
1	Source	[1] 2.2 [2] 3.4	C.1
2	Sink	[1] 2.2 [2] 3.4	C.1

C.1: Mandatory to support at least one.

2.4 Source Role

2.4.1 GAP and BB requirements (Source)

Table 2: GAP and BB Requirements (Source)

Prerequisite: HDP 1/1 “Source”

Item	Feature	Reference	Status	Inter-Layer Dependency
1	General discoverable mode	[1] 3.1.1	M	[4] GAP 1/3
2	Bondable mode	[1] 3.1.1	M	[4] GAP 1/7
3	Authentication procedure	[1] 3.1.2	M	[4] GAP 2/1

** 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	Feature	Reference	Status	Inter-Layer Dependency
4	Initiate LMP-Authentication	[1] 3.1.2	M	[4] GAP 2/3
5–6	No longer used	N/A	N/A	N/A
7	Initiation of general inquiry	[1] 3.1.3	C.1	[4] GAP 3/1
8	Acceptance of Bonding requests	[1] 3.1.3	M	N/A
9	Initiation of general bonding	[1] 3.1.3	O	[4] GAP 3/5
10	Extended Inquiry Response	[1] 3.1.4	M	[5] BB 10/7
11	Supports use of Health Class of Device	[1] 3.1.5	O	N/A

C.1: Mandatory IF HDP 2/9 “Initiation of general bonding”, otherwise Optional.

2.4.2 L2CAP requirements (Source)

Table 3: L2CAP Features (Source)

Prerequisite: HDP 1/1 “Source”

Item	Feature	Reference	Status	Inter-Layer Dependency
1	Reliable Control Channel	[1] 3.3.1	M	N/A
2	FCS for Control Channel	[1] 3.3.1	M	N/A
2a	Enhanced Retransmission Mode	[1] 3.3.1	M	[9] L2CAP 2/12
2b	FCS Option	[1] 3.3.1	M	[9] L2CAP 2/14
3	Reliable Data Channel	[1] 3.4	M	N/A
4	Send data using SAR in ERTM	[1] 3.4.1	M	[9] L2CAP 2/22
5	FCS for Reliable Data Channel	[1] 3.4.1	O	N/A
6	FCS option of “No FCS” for Reliable Data Channel	[1] 3.4.1	O	N/A
7	Streaming Data Channel	[1] 3.4	O	N/A
8	Send data using SAR in Streaming Mode	[1] 3.4.2	C.8	[9] L2CAP 2/23
9	FCS for Steaming Data Channel	[1] 3.4.2	C.7	N/A
10	FCS option of “No FCS” for Streaming Data Channel	[1] 3.4.2	C.6	N/A
10a	Streaming Mode	[1] 3.4.2	C.8	[9] L2CAP 2/13
11	Maximum number of simultaneous Data Channels supported (DCmax) per MCL ≥ 1	[1] 3.4	M	N/A
12	Maximum number of simultaneous Data Channels supported (DCmax) per MCL ≥ 2	[1] 3.4	C.7	N/A

C.1–C.5: No longer used.

C.6: Optional IF HDP 3/7 “Streaming Data Channel”, otherwise Excluded.

C.7: Mandatory IF HDP 3/7 “Streaming Data Channel”, otherwise Excluded.

C.8: Mandatory IF HDP 3/7 “Streaming Data Channel”, otherwise not defined.

2.4.3 SDP requirements (Source)

Table 4: SDP Attributes (Source)

Prerequisite: HDP 1/1 "Source"

Item	Feature	Reference	Status	Inter-Layer Dependency
1	Advertisement of HDP Service Record	[1] 5	C.1	N/A
1a	Server	[1] 5	C.4	[6] SDP 1b/1
1b	Client	[1] 5	C.5	[6] SDP 1b/2
2	No longer used	N/A	N/A	N/A
3	ProtocolDescriptorList	[1] 5.2.3	C.2	[6] SDP 9/2
4	BluetoothProfileDescriptorList	[1] 5.2.4	C.2	[6] SDP 9/14
5	AdditionalProtocolDescriptorList	[1] 5.2.5	C.2	[6] SDP 9/17
6	ServiceName	[1] 5.2.6	O	[6] SDP 9/9
7	ServiceDescription	[1] 5.2.7	O	[6] SDP 9/10
8	ProviderName	[1] 5.2.8	O	[6] SDP 9/11
9	HDP Supported Features (MDEP List)	[1] 5.2.9	C.3	N/A
10	MCAP Data Exchange Specification	[1] 5.2.10	C.3	N/A
11	MCAP Supported Procedures	[1] 5.2.11	C.3	N/A
12	ServiceRecordState	[1] 5.2.9	O	[6] SDP 9/3

C.1: Mandatory IF HDP 6/3 "Accept creation of Control and Data Channels", otherwise Excluded.

C.2: Mandatory IF HDP 4/1 "Advertisement of HDP Service Record", otherwise Optional.

C.3: Mandatory IF HDP 4/1 "Advertisement of HDP Service Record", otherwise Excluded.

C.4: Mandatory IF HDP 4/1 "Advertisement of HDP Service Record" OR HDP 6/3 "Accept creation of Control and Data Channels", otherwise not defined.

C.5: Mandatory IF HDP 6/2 "Initiate creation of Control and Data Channels", otherwise not defined.

2.4.4 DID requirements (Source)

Table 5: DID Requirements (Source)

Prerequisite: HDP 1/1 "Source"

Item	Feature	Reference	Status	Inter-Layer Dependency
1	DID v1.3	[1] 5.3	C.1	[7] DID 0/2

C.1: Mandatory IF HDP 4/1 "Advertisement of HDP Service Record", otherwise Optional.

2.4.5 MCAP requirements (Source)

Table 6: MCAP Requirements (Source)

Prerequisite: HDP 1/1 "Source"

Item	Feature	Reference	Status	Inter-Layer Dependency
1	Standard Op Codes	[1] 3.2	M	[8] MCAP 1a/1

Item	Feature	Reference	Status	Inter-Layer Dependency
2	Initiate creation of Control and Data Channels	[2] 4.3	C.1	[8] MCAP 3/2
3	Accept creation of Control and Data Channels	[2] 4.3	C.1	[8] MCAP 3/3
4	Initiate Reconnection of MDL	[2] 4.3	O	[8] MCAP 3/8
5	Accept Reconnection of MDL	[2] 4.3	C.2	[8] MCAP 3/9
6	Clock Synchronization Protocol Op Codes	[1] 3.2	O	[8] MCAP 1a/2
7	Sync-Slave	[2] 5.1.3.2	C.3	[8] MCAP 1/3
8	Sync-Master	[2] 5.1.3.1	C.4	[8] MCAP 1/4
9	Source	[1] 2.2 [2] 3.4	M	[8] MCAP 1/1

C.1: Mandatory to support at least one.

C.2: Mandatory IF HDP 6/3 “Accept creation of Control and Data Channels”, otherwise not defined.

C.3: Mandatory IF HDP 6/6 “Clock Synchronization Protocol Op Codes”, otherwise not defined.

C.4: Optional IF HDP 6/6 “Clock Synchronization Protocol Op Codes”, otherwise not defined.

2.4.6 Data Exchange Features (Source)

Table 7: Data Exchange Features (Source)

Prerequisite: HDP 1/1 “Source”

Item	Feature	Reference	Status
1	Initiation of Echo Test	[1] 5.2.9.1.1	O
2	Acceptance of Echo Test	[1] 5.2.9.1.1	M
3	IEEE 11073-20601	[1] 1.5.3 [3] 1.3	M
4	IEEE 11073-20601 Agent Role	[1] 1.5.3 [3] 1.3, 3.1.1	C.1
5	IEEE 11073-20601 Manager Role	[1] 1.5.3 [3] 1.3, 3.1.6	C.1
6	Initiation of Association Release	[1] 3.4	O

C.1: Mandatory to support at least one.

2.5 Sink Role

2.5.1 GAP and BB requirements (Sink)

Table 8: GAP and BB Requirements (Sink)

Prerequisite: HDP 1/2 “Sink”

Item	Feature	Reference	Status	Inter-Layer Dependency
1	General discoverable mode	[1] 3.1.1	M	[4] GAP 1/3
2	Bondable mode	[1] 3.1.1	M	[4] GAP 1/7

Item	Feature	Reference	Status	Inter-Layer Dependency
3	Authentication procedure	[1] 3.1.2	M	[4] GAP 2/1
4	Initiate LMP-Authentication	[1] 3.1.2	M	[4] GAP 2/3
5–6	No longer used	N/A	N/A	N/A
7	Initiation of general inquiry	[1] 3.1.3	M	[4] GAP 3/1
8	Acceptance of Bonding requests	[1] 3.1.3	M	N/A
9	Initiation of general bonding	[1] 3.1.3	O	[4] GAP 3/5
10	Extended Inquiry Response	[1] 3.1.4	M	[5] BB 10/7
11	Use of Health Class of Device	[1] 3.1.5	O	N/A

2.5.2 L2CAP requirements (Sink)

Table 9: L2CAP Features (Sink)

Prerequisite: HDP 1/2 “Sink”

Item	Feature	Reference	Status	Inter-Layer Dependency
1	Reliable Control Channel	[1] 3.3.1	M	N/A
2	FCS for Control Channel	[1] 3.3.1	M	N/A
2a	Enhanced Retransmission Mode	[1] 3.3.1	M	[9] L2CAP 2/12
2b	FCS Option	[1] 3.3.1	M	[9] L2CAP 2/14
3	Reliable Data Channel	[1] 3.4.1	M	N/A
4	Send data using SAR in ERTM	[1] 3.4.1	M	[9] L2CAP 2/22
5	FCS for Reliable Data Channel	[1] 3.4.1	O	N/A
6	FCS option of “No FCS” for Reliable Data Channel	[1] 3.4.1	O	N/A
7	Streaming Data Channel	[1] 3.4	M	N/A
8	Send data using SAR in Streaming Mode	[1] 3.4.2	M	[9] L2CAP 2/23
9	FCS for Steaming Data Channel	[1] 3.4.2	M	N/A
10	FCS option of “No FCS” for Streaming Data Channel	[1] 3.4.2	O	N/A
10a	Streaming Mode	[1] 3.4.2	M	[9] L2CAP 2/13
11	Maximum number of simultaneous Data Channels supported (DCmax) per MCL	[1] 3.4	M	N/A

2.5.3 SDP requirements (Sink)

Table 10: SDP Attributes (Sink)

Prerequisite: HDP 1/2 "Sink"

Item	Feature	Reference	Status	Inter-Layer Dependency
1	Advertisement of HDP Service Record	[1] 5	O	N/A
1a	Server	[1] 5	C.1	[6] SDP 1b/1
1b	Client	[1] 5	C.2	[6] SDP 1b/2
2	No longer used	N/A	N/A	N/A
3	ProtocolDescriptorList	[1] 5.2.3	M	[6] SDP 9/2
4	BluetoothProfileDescriptorList	[1] 5.2.4	M	[6] SDP 9/14
5	AdditionalProtocolDescriptorList	[1] 5.2.5	M	[6] SDP 9/17
6	ServiceName	[1] 5.2.6	O	[6] SDP 9/9
7	ServiceDescription	[1] 5.2.7	O	[6] SDP 9/10
8	ProviderName	[1] 5.2.8	O	[6] SDP 9/11
9	HDP Supported Features (MDEP List)	[1] 5.2.9	M	N/A
10	MCAP Data Exchange Specification	[1] 5.2.10	M	N/A
11	MCAP Supported Procedures	[1] 5.2.11	M	N/A
12	ServiceRecordState	[1] 5.2.9	O	[6] SDP 9/3

C.1: Mandatory IF HDP 10/1 "Advertisement of HDP Service Record" OR HDP 12/3 "Accept creation of Control and Data Channels", otherwise not defined.

C.2: Mandatory IF HDP 12/2 "Initiate creation of Control and Data Channels", otherwise not defined.

2.5.4 DID requirements (Sink)

Table 11: DID Requirements (Sink)

Prerequisite: HDP 1/2 "Sink"

Item	Feature	Reference	Status	Inter-Layer Dependency
1	DID v1.3	[1] 5.3	M	[7] DID 0/2

2.5.5 MCAP requirements (Sink)

Table 12: MCAP Requirements (Sink)

Prerequisite: HDP 1/2 "Sink"

Item	Feature	Reference	Status	Inter-Layer Dependency
1	Standard Op Codes	[1] 3.2	M	[8] MCAP 1a/1
2	Initiate creation of Control and Data Channels	[2] 4.3	O	[8] MCAP 5/2
3	Accept creation of Control and Data Channels	[2] 4.3	O	[8] MCAP 5/3

Item	Feature	Reference	Status	Inter-Layer Dependency
4	Initiate Reconnection of MDL	[2] 4.3	O	[8] MCAP 5/8
5	Accept Reconnection of MDL	[2] 4.3	M	[8] MCAP 5/9
6	Clock Synchronization Protocol Op Codes	[1] 3.2	O	[8] MCAP 1a/2
7	Sync-Slave	[2] 5.1.3.2	C.1	[8] MCAP 1/3
8	Sync-Master	[2] 5.1.3.1	C.2	[8] MCAP 1/4
9	Sink	[1] 2.2 [2] 3.4	M	[8] MCAP 1/2

C.1: Mandatory IF HDP 12/6 “Clock Synchronization Protocol Op Codes”, otherwise not defined.

C.2: Optional IF HDP 12/6 “Clock Synchronization Protocol Op Codes”, otherwise not defined.

2.5.6 Data Exchange Features (Sink)

Table 13: Data Exchange Features (Sink)

Prerequisite: HDP 1/2 “Sink”

Item	Feature	Reference	Status
1	Initiation of Echo Test	[1] 5.2.9.1.1	O
2	Acceptance of Echo Test	[1] 5.2.9.1.1	M
3	IEEE 11073-20601	[1] 1.5.3 [3] 1.3	M
4	IEEE 11073-20601 Agent Role	[1] 1.5.3 [3] 1.3, 3.1.1	C.1
5	IEEE 11073-20601 Manager Role	[1] 1.5.3 [3] 1.3, 3.1.6	C.1
6	Initiation of Association Release	[1] 3.4	O

C.1: Mandatory to support at least one IF HDP 13/3 “IEEE 11073-20601”, otherwise Excluded.

3 References

[1] Health Device Profile (HDP) Specification, Version 1.0 or later

[2] Multi-Channel Adaptation Protocol (MCAP) Specification

[3] IEEE Std 11073-20601™- 2008 Health Informatics - Personal Health Device Communication - Application Profile - Optimized Exchange Protocol - Version 1.0 or later

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

[5] ICS Proforma for Baseband (BB)

[6] ICS Proforma for Service Discovery Protocol (SDP)

[7] ICS Proforma for Device Identification (DID)

[8] ICS Proforma for Multi-Channel Adaptation Protocol (MCAP)

[9] ICS Proforma for Logical Link Control and Adaptation Protocol (L2CAP)

[10] Health Device Profile (HDP) Specification, Version 1.1

4 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	1.0.0	2008-06-24	Prepare for publication
1	1.0.1	2009-05-01	TSE 2926: Change 7/1 and 13/1 status to O. Added attribute to Tables 4 and 10 for ServiceRecordState per spec erratum 2947.
	1.0.1a	2009-11-23	Added missing radio buttons in PDF version
	1.0.2r0	2010-08-12	TSE 3088: ServiceRecordState added 01 May 2009.
2	1.0.2	2011-07-21	Prepare for publication.
	1.0.3r0	2011-11-03	TSE 2970: Add Optional table items 7/6 and 13/6
3	1.0.3r1	2012-03-12	Input reviewers (MS and AC) comments.
	1.0.4r0	2012-06-06	TSE 4802: Table prerequisite and reference updates.
	1.0.4r1	2012-06-12	BTI comments addressed. Conditional syntax updated to meet the standards used.
	1.1.0	2012-06-13	Versioning updates to accommodate HDP_SPEC_v1.1
4	1.1.0	2012-07-24	Prepare for publication.
	1.1.1r00	2017-04-17	TSE 8421: Updated Template.
	1.1.1r01	2017-05-08	Fixed typo in Core 2.1 reference, updated TOC, and fixed paragraph alignment for references.
5	1.1.1	2017-07-03	Approved by BTI. Prepared for TCRL 2017-1 publication.
	1.1.2r00	2018-09-24	Drafted Deprecation/Withdrawal changes
6	1.1.2	2018-11-21	Approved by BTI. Prepared for TCRL 2018-2 publication.
	1.1.2ed2r00–r02	2021-01-24 – 2021-07-07	TSE 16447 (rating 1): Added Inter-Layer Dependency formatting. Updated all references. Updated deprecation date for v1.0 to 2013-07-24. Template-related editorials to align with the latest ICS template. Assigned previous v1.1.2 as p6.
	1.1.2 edition 2	2021-07-15	Approved by BTI on 2021-05-06. Prepared for edition 2 publication.
	1.1.2ed3r00	2021-10-14	TSE 17690 (rating 1): Updated deprecation and withdrawal information and made additional consistency checker editorials.
	1.1.2 edition 3	2021-11-22	Approved by BTI on 2021-11-08. Prepared for edition 3 publication.

Publication Number	Revision Number	Date	Comments
	p7r00–r01	2023-10-16 – 2023-11-29	TSE 24173 (rating 2): Resolved inter-layer dependencies with MCAP and L2CAP. In Table 0, marked Item 1 as deprecated (grey text), updated the Status value for Item 2, and deleted C.1. In Table 1, updated the Role and Status values for Items 1 and 2, updated C.1, and deleted C.2 and C.3. In Table 2, updated the prerequisite, marked Items 5 and 6 as no longer used, updated the Feature value for Item 8, updated the Feature and ILD values for Item 9, and updated C.1. In Table 3, updated the prerequisite; updated the Feature and Status values for Items 1, 3, 6, 7, 9, and 10; updated the Feature value for Items 2 and 5; added Items 2a, 2b, and 10a; updated the Status value for Items 4 and 8; updated the Status value for Item 12; marked C.1–C.5 as no longer used; and modified C.6–C.8. In Table 4, updated the prerequisite, updated the Feature value for Items 1, 1a, and 1b; marked Item 2 as no longer used; and updated C.1–C.5. In Table 5, updated the prerequisite and C.1. In Table 6, updated the prerequisite, updated the Feature value for Items 1 and 6–8, added Item 9, updated C.1–C.4, and added C.5. In Table 7, updated the prerequisite, Items 1–6, and C.1. In Table 8, updated the prerequisite, marked Items 5 and 6 as no longer used, updated the Feature value for Items 8 and 11, and updated the Feature and ILD values for Item 9. In Table 9, updated the Feature and Status values for Items 1, 3, 6, 9, and 10; updated the Feature value for Items 2 and 5; added Items 2a, 2b, and 10a; updated the Status value for Items 4 and 8; updated the Feature, Reference, and Status values for Item 7; and deleted C.1–C.5. In Table 10, updated the prerequisite, updated the Feature values for Items 1, 1a, and 1b; marked Item 2 as no longer used; and updated C.1 and C.2. In Table 11, updated the prerequisite. In Table 12, updated the prerequisite, updated the Feature value for Items 1 and 6–8, added Item 9 and C.3, and updated C.1 and C.2. In Table 13, updated the prerequisite, the Feature value for Items 1–6, and C.1. Made editorial edits to align the document with the latest ICS template, including updates to the IUT identification section, table titles, and spacing. Updated the references and the section titles for requirements tables. Removed “is supported” language from conditionals. Updated the copyright page to align with v2 of the DNMD. Deleted draft revision history comments prior to p0.
7	p7	2024-07-01	Approved by BTI on 2024-05-22. Prepared for TCRL 2024-1 publication.
	p8r00	2025-02-25	TSE 27003 (rating 2): Updated Reference values for Table 0. Added “Core Configuration” section and Table 0a. Updated the “References” section. Applied the current ICS template.

Publication Number	Revision Number	Date	Comments
8	p8	2025-07-08	Approved by BTI on 2025-05-30. Prepared for TCRL pkg100 publication.

Acknowledgments

Name	Company
Mats Andersson	connectBlue
Peter Flittner	CSR
Nick Hunn	Ezurio
Tomas O'Raghallaigh	Frontline Test Equipment
Michael Nidd	IBM
Robert Hughes	Intel Corporation (editor)
Dennis Mathews	MindTree
Karsten Aalders	Stollmann