Fitness Machine Profile (FTMP)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

- **Revision:** FTMP.ICS.p4
- **Revision Date:** 2025-11-04
- **Prepared By:** Sports and Fitness Working Group
- **Published during TCRL:** TCRL.pkg101

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	FTMP v1.0	[1]	M

Table 0a: X.Y.Z Versions

Item	Version	Reference	Status
1	FTMP v1.0.1	[7]	O

Table 1: No longer used

2.2 Roles

Table 2: Role Requirements

Item	Role	Reference	Status
1	Fitness Machine	[1] 2.1	C.1
2	Collector	[1] 2.1	C.1

C.1:   Mandatory to support at least one.

2.3 Transports

Table 3: Transport Requirements

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

2.4 Fitness Machine role

2.4.1 Services (Fitness Machine)

Table 4: FTM Service Requirements (Fitness Machine)

Prerequisite: FTMP 2/1 "Fitness Machine"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Fitness Machine Service	[1] 3, 3.1	M	[5] FTMS

Item	Capability	Reference	Status	Inter-Layer Dependency
1a	User Data Retention Supported	[1] 3.2	O	[5] FTMS 3/17
2	Service UUID	[1] 3.1.1.1	C.1	[3] GAP 20a/1
3	Local Name	[1] 3.1.1.2	C.1	[3] GAP 20a/2
4	Local Name in Scan Response Data	[1] 3.1.1.2	O	N/A
5	Writable Device Name	[1] 3.1.1.3	C.1	[3] GAP 27/6
6	Appearance	[1] 3.1.1.4	C.2	[3] GAP 20a/11
7	Appearance included in Scan Response Data	[1] 3.1.1.4	C.2	N/A
8	Service Data	[1] 3.1.1.5, 5.1.4	C.1	[3] GAP 20a/10
9	User Data Service	[1] 3, 3.2	O	[6] UDS
10	Device Information Service	[1] 3, 3.3	O	[4] DIS
11	Low Duty Cycle Directed AD	[1] 5.1.2	C.1	N/A

C.1: Optional IF FTMP 3/2 "Profile supported over LE", otherwise not defined.

C.2: Optional to support one and only one of FTMP 4/6 "Appearance" OR FTMP 4/7 "Appearance included in Scan Response Data", IF FTMP 3/2 "Profile supported over LE", otherwise not defined.

2.4.2 DIS requirements (Fitness Machine)

Table 5: Device Information Service Requirements (Fitness Machine)

Prerequisite: FTMP 2/1 "Fitness Machine" AND FTMP 4/10 "Device Information Service"

Item	Capability	Reference	Status
1	Manufacturer Name String	[1] 3.3	O
2	Model Number String	[1] 3.3	O

2.4.3 GAP requirements (Fitness Machine)

Table 6: GAP Requirements (Fitness Machine)

Prerequisite: FTMP 2/1 "Fitness Machine"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Peripheral	[1] 2.4	M	[3] GAP 5/3
2	LE security mode 1	[1] 6.1	C.1	[3] GAP 25/1
3	General discoverable mode (BR/EDR)	[1] 7.1	C.2	[3] GAP 1/3
4	Limited discoverable mode (BR/EDR)	[1] 7.1	C.2	[3] GAP 1/2
5	No longer used	N/A	N/A	N/A
5a	Bondable mode (BR/EDR)	[1] 7.1	C.5	[3] GAP 1/7
5b	Bondable mode (LE)	[1] 5.1.1, 5.1.2	C.3	[3] GAP 24/2

Item	Capability	Reference	Status	Inter-Layer Dependency
6	Bonding procedure	[1] 5.1.1, 5.1.2	C.4	[3] GAP 24/3
7	Unauthenticated Pairing (LE security mode 1 level 2)	[1] 6.1	C.4	[3] GAP 25/8
8	Authenticated Pairing (LE security mode 1 level 3)	[1] 6.1	C.4	[3] GAP 25/7

C.1:   Mandatory IF FTMP 3/2 "Profile supported over LE", otherwise not defined.

C.2:   Mandatory to support at least one IF FTMP 3/1 "Profile supported over BR/EDR", otherwise not defined.

C.3:   Mandatory IF FTMP 6/6 "Bonding procedure", otherwise Optional.

C.4:   Optional IF FTMP 3/2 "Profile supported over LE", otherwise not defined.

C.5:   Optional IF FTMP 3/1 "Profile supported over BR/EDR", otherwise not defined.

Table 7: No longer used

2.5   Collector role

2.5.1   Service Support (Collector)

Table 8: FTM Service Support (Collector)

Prerequisite: FTMP 2/2 "Collector"

Item	Capability	Reference	Status
1	Fitness Machine Service	[1] 4	M
2	User Data Service	[1] 4	O
3	Device Information Service	[1] 4	O

2.5.2   Discover Services and Characteristics (Collector)

Table 9: Discover FTM Services and Characteristics (Collector)

Prerequisite: FTMP 2/2 "Collector"

Item	Capability	Reference	Status
1	Discover FTM Service	[1] 4.2	M
2	Discover UDS	[1] 4, 4.2	O
3	Discover DIS	[1] 4, 4.2	O
4	Discover FTM Service Characteristic	[1] 4, 4.3.1	M
5	Discover UDS Characteristic	[1] 4, 4.3	O
6	Discover DIS Characteristic	[1] 4, 4.3.2	O
7	Discover FTM Characteristic Descriptor	[1] 4, 4.3.3	O
8	Discover FTM Feature Characteristic	[1] 4.3.1	M
8a	Discover FTM Feature characteristic – Client Configuration Characteristic Descriptor	[7] 4.4.1	C.1

Item	Capability	Reference	Status
9	Treadmill Data	[1] 4.3.1	O
10	Cross Trainer Data	[1] 4.3.1	O
11	Step Climber Data	[1] 4.3.1	O
12	Stair Climber Data	[1] 4.3.1	O
13	Rower Data	[1] 4.3.1	O
14	Indoor Bike Data	[1] 4.3.1	O
15	Training Status	[1] 4.3.1	M
16	Supported Speed Range	[1] 4.3.1	O
17	Supported Inclination Range	[1] 4.3.1	O
18	Supported Resistance Level Range	[1] 4.3.1	O
19	Supported Power Range	[1] 4.3.1	O
20	Supported Heart Rate Range	[1] 4.3.1	O
21	Fitness Machine Control Point	[1] 4.3.1	O
22	Fitness Machine Status	[1] 4.3.1	O
23	Service Data in AD	[1] 5.1.4, 5.2.2	O

C.1:   Optional IF FTMP 0/1 "FTMP v1.0" AND NOT FTMP 0a/1 "FTMP v1.0.1", otherwise Mandatory.

Table 10: Discover User Data Service and Characteristics (Collector)

Prerequisite: FTMP 2/2 "Collector" AND FTMP 8/2 "User Data Service"

Item	Capability	Reference	Status
1	Discover Database Change Increment	[1] 4.3.2	M
2	Database Change Increment – Client Configuration Characteristic Descriptor	[1] 4.3.2, 4.5.1	M
3	User Data Control Point	[1] 4.3.2	M
4	User Data Control Point Characteristic – Client Configuration Characteristic Descriptor	[1] 4.3.2	M
5	User Index	[1] 4.3.2	M
6	Discover Other UDS Characteristics	[1] 4.3.2	C.1

C.1:   Mandatory IF FTMP 20/10 "Read UDS Characteristic" OR FTMP 20/1 "Writing of UDS Characteristic Values", otherwise Optional.

Table 11: Discover DIS and Characteristics (Collector)

Prerequisite: FTMP 2/2 "Collector" AND FTMP 8/3 "Device Information Service"

Item	Capability	Reference	Status
1	Discover Device Information Service	[1] 4.3.3	O

2.5.3   Features (Collector)

Table 12: Feature Requirements (Collector)

Prerequisite: FTMP 2/2 "Collector"

Item	Capability	Reference	Status
1	Read FTM Feature Characteristic	[1] 4.4.1	M
2	Receive Training Status characteristic	[1] 4.4.8	C.1
3	Read Supported Speed Range Characteristic	[1] 4.4.9	C.2
4	Read Supported Inclination Range Characteristic	[1] 4.4.10	C.3
5	Read Supported Resistance Level Range Characteristic	[1] 4.4.11	C.4
6	Read Supported Power Range Characteristic	[1] 4.4.12	C.5
7	Read Supported Heart Rate Range	[1] 4.4.13	C.6
8	Fitness Machine Control Point	[1] 4.4.14	O
9	Receive Fitness Machine Status notification	[1] 4.4.15	C.7
10	Configure characteristic for indications to determine supported features	[7] 4.4.1	C.8

C.1:   Mandatory IF FTMP 9/15 "Training Status", otherwise Excluded.

C.2:   Mandatory IF FTMP 9/16 "Supported Speed Range", otherwise Excluded.

C.3:   Mandatory IF FTMP 9/17 "Supported Inclination Range", otherwise Excluded.

C.4:   Mandatory IF FTMP 9/18 "Supported Resistance Level Range", otherwise Excluded.

C.5:   Mandatory IF FTMP 9/19 "Supported Power Range", otherwise Excluded.

C.6:   Mandatory IF FTMP 9/20 "Supported Heart Rate Range", otherwise Excluded.

C.7:   Mandatory IF FTMP 9/22 "Fitness Machine Status", otherwise Excluded.

C.8:   Optional IF FTMP 0/1 "FTMP v1.0" AND NOT FTMP 0a/1 "FTMP v1.0.1", otherwise Mandatory.

Table 12a: Feature Requirements (Collector)

Prerequisite: FTMP 12/10 "Configure characteristic for indications to determine supported features"

Item	Capability	Reference	Status
1	Configure and receive FTM Feature characteristic indications	[7] 4.4.1	C.1
2	Read FTM Feature characteristic on reconnection	[7] 4.4.1	C.1

C.1:   Mandatory to support at least one.

Table 13: Treadmill Requirements (Collector)

Prerequisite: FTMP 2/2 "Collector" AND FTMP 9/9 "Treadmill Data"

Item	Capability	Reference	Status
1	Configure Treadmill Data characteristic notifications	[1] 4.4.2	M
2	Receive Treadmill Data characteristic notifications	[1] 4.4.2	M

Table 14: Cross Trainer Requirements (Collector)

Prerequisite: FTMP 2/2 "Collector" AND FTMP 9/10 "Cross Trainer Data"

Item	Capability	Reference	Status
1	Configure Cross Trainer Data characteristic for notification	[1] 4.4.3	M
2	Receive Cross Trainer Data characteristic notifications	[1] 4.4.3	M

Table 15: Step Climber (Collector)

Prerequisite: FTMP 2/2 "Collector" AND FTMP 9/11 "Step Climber Data"

Item	Capability	Reference	Status
1	Configure Step Climber Data characteristic notifications	[1] 4.4.4	M
2	Receive Step Climber Data characteristic notifications	[1] 4.4.4	M

Table 16: Stair Climber (Collector)

Prerequisite: FTMP 2/2 "Collector" AND FTMP 9/12 "Stair Climber Data"

Item	Capability	Reference	Status
1	Configure Stair Climber Data characteristic notifications	[1] 4.4.5	M
2	Receive Stair Climber Data characteristic notifications	[1] 4.4.5	M

Table 17: Rower Data (Collector)

Prerequisite: FTMP 2/2 "Collector" AND FTMP 9/13 "Rower Data"

Item	Capability	Reference	Status
1	Configure Rower Data characteristic notifications	[1] 4.4.6	M
2	Receive Rower Data characteristic notifications	[1] 4.4.6	M

Table 18: Indoor Bike (Collector)

Prerequisite: FTMP 2/2 "Collector" AND FTMP 9/14 "Indoor Bike Data"

Item	Capability	Reference	Status
1	Configure Indoor Bike Data characteristic notifications	[1] 4.4.7	M
2	Receive Indoor Bike Data characteristic notifications	[1] 4.4.7	M

Table 19: Fitness Machine Control Point Procedures (Collector)

Prerequisite: FTMP 2/2 "Collector" AND FTMP 9/21 "Fitness Machine Control Point"

Item	Capability	Reference	Status
1	FTM Control Point	[1] 4.4.14	M
2	Configure FTM Control Point characteristic for Indications	[1] 4.4.14	M
3	Request Control	[1] 4.4.14.2.1	M

Item	Capability	Reference	Status
4	Reset	[1] 4.4.14.2.2	M
5	Set Target Speed	[1] 4.4.14.2.3	O
6	Set Target Inclination	[1] 4.4.14.2.4	O
7	Set Target Resistance Level	[1] 4.4.14.2.5	O
8	Set Target Power	[1] 4.4.14.2.6	O
9	Set Target Heart Rate	[1] 4.4.14.2.7	O
10	Start or Resume	[1] 4.4.14.2.8	O
11	Stop	[1] 4.4.14.2.9	O
12	Pause	[1] 4.4.14.2.9	O
13	Set Targeted Expended Energy	[1] 4.4.14.2.10	O
14	Set Targeted Number of Steps	[1] 4.4.14.2.11	O
15	Set Targeted Number of Strides	[1] 4.4.14.2.12	O
16	Set Targeted Distance	[1] 4.4.14.2.13	O
17	Set Targeted Training Time	[1] 4.4.14.2.14	O
18	Set Targeted Time in Two Heart Rate Zones	[1] 4.4.14.2.15	O
19	Set Targeted Time in Three Heart Rate Zones	[1] 4.4.14.2.16	O
20	Set Targeted Time in Five Heart Rate Zones	[1] 4.4.14.2.17	O
21	Set Indoor Bike Simulation Parameters	[1] 4.4.14.2.18	O
22	Set Wheel Circumference	[1] 4.4.14.2.19	O
23	Spin Down Control	[1] 4.4.14.2.20	O
24	FTM Control Point Characteristic – Procedure Time Out	[1] 4.4.14.3	O
25	Write to FTM Status characteristic – Client Characteristic Configuration descriptor	[1] 4.4.15	O
26	Receive Multiple Notification of the FTM Status and Decode the Parameter field	[1] 4.4.15	O
27	Set Targeted Cadence	[1] 4.4.14.2.20	O
28	General Error Handling – Control Point Error Codes	[1] 4.7	M

C.1:   No longer used.

Table 20: User Data Service Procedure Requirement (Collector)

Prerequisite: FTMP 2/2 "Collector" AND FTMP 10/4 "User Data Control Point Characteristic – Client Configuration Characteristic Descriptor"

Item	Capability	Reference	Status
1	Writing of UDS Characteristic Values	[1] 4.3.2, 4.5	O
2	Configure Database Change Increment – Client Characteristic Configuration Descriptor	[1] 4.5.1	C.1
3	Receive Database Change Increment Notifications	[1] 4.5.1	C.1
4	Read Database Change Increment Characteristic	[1] 4.5.1	C.1
5	Write Database Change Increment Characteristic	[1] 4.5.1	C.1
6	User Data Synchronization Feature	[1] 4.5.1, 4.5.4	C.2

Item	Capability	Reference	Status
7	User Data Control Point	[1] 4.5.2	M
8	User Index	[1] 4.5.2.2.1	M
9	Caching of Consent Code	[1] 4.5.2.2.1	O
10	Read UDS Characteristic	[1] 4.5.3	O
11	Read Long UDS Characteristic	[1] 4.5.3	O
12	Write Long UDS Characteristic	[1] 4.5.3	O

C.1:   Mandatory IF FTMP 20/6 "User Data Synchronization Feature", otherwise Optional.

C.2:   Mandatory IF FTMP 20/1 "Writing of UDS Characteristic Values", otherwise Optional.

Table 21: User Data Access Methods (Collector)

Prerequisite: FTMP 2/2 "Collector" AND FTMP 20/7 "User Data Control Point"

Item	Capability	Reference	Status
1	Register New User when connection established	[1] 4.5.2.2.1, 4.8	M
2	Consent	[1] 4.5.2.2.2, 4.8	M
3	Delete User before terminating connection	[1] 4.5.2.2.3, 4.8	M

2.5.4   GATT requirements (Collector)

Table 22: GATT Requirements (Collector)

Prerequisite: FTMP 2/2 "Collector"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No longer used	N/A	N/A	N/A
2	GATT Client over BR/EDR	[1] 4.2	C.1	[2] GATT 1a/2
3	GATT Client over LE	[1] 4.2	C.2	[2] GATT 1a/1
4	Discover All Primary Services	[1] 4.2	C.3	[2] GATT 3/2
5	Discover Primary Services by Service UUID	[1] 4.2	C.3	[2] GATT 3/3
6	Discover All Characteristics of a Service	[1] 4.3	C.4	[2] GATT 3/5
7	Discover Characteristics by UUID	[1] 4.3	C.4	[2] GATT 3/6
8	Discover All Characteristic Descriptors	[1] 4.3	M	[2] GATT 3/7
9	Read Characteristic Value	[1] 4.1	M	[2] GATT 3/8
10	Single Notification	[1] 4.4	M	[2] GATT 3/17
11	Write Characteristic Value	[1] 4.1	M	[2] GATT 3/14
12	Read Characteristic Descriptors	[1] 4.1, 4.3.1	M	[2] GATT 3/19
13	Write Characteristic Descriptors	[1] 4.1, 4.3.1	M	[2] GATT 3/21
14	Indications	[1] 4.4.14	M	[2] GATT 3/18

Item	Capability	Reference	Status	Inter-Layer Dependency
15	Read Long Characteristic Values	[1] 4.1	C.5	[2] GATT 3/10
16	Write Long Characteristic Values	[1] 4.1	C.6	[2] GATT 3/15

C.1:   Mandatory IF FTMP 3/1 "Profile supported over BR/EDR", otherwise Optional.

C.2:   Mandatory IF FTMP 3/2 "Profile supported over LE", otherwise Optional.

C.3:   Mandatory to support at least one.

C.4:   Mandatory to support at least one.

C.5:   Mandatory IF FTMP 20/11 "Read Long UDS Characteristic" OR FTMP 9/15 "Training Status", otherwise Optional.

C.6:   Mandatory IF FTMP 20/12 "Write Long UDS Characteristic", otherwise Optional.

2.5.5   GAP requirements (Collector)

Table 23: GAP Requirements (Collector)

Prerequisite: FTMP 2/2 "Collector"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Central	[1] 2.4	C.1	[3] GAP 5/4
2	LE security mode 1	[1] 6.2	C.1	[3] GAP 35/1
3	Initiation of general inquiry	[1] 7.2	C.2	[3] GAP 3/1
4	Bondable mode	[1] 6.2, 7.1	M	[3] GAP 1/7 OR GAP 34/2
5	Bonding procedure	[1] 6.2, 7.1	C.1	[3] GAP 34/3
6	Unauthenticated Pairing (LE security mode 1 level 2)	[1] 6.2	C.1	[3] GAP 35/8
7	Authenticated Pairing (LE security mode 1 level 3)	[1] 6.2	C.1	[3] GAP 35/7

C.1:   Mandatory IF FTMP 3/2 "Profile supported over LE", otherwise not defined.

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

Table 24: No longer used

3   References

[1]   Fitness Machine Profile Specification, Version 1.0 or later

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

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

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

[5]   ICS Proforma for Fitness Machine Service ICS (FTMS)

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

[7]   Fitness Machine Profile Specification, Version 1.0.1

4   Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	1.0.0	2017-02-17	Prepared for publication by Bluetooth SIG staff.
	p1r00–r03	2022-03-15 – 2022-05-04	TSE 18593 (rating 2): Removed Table 1 to align with the most recent ICS conventions. Added inter-layer dependency entries to Table 4 and modified Capability name and Status as necessary. Updated prerequisite for Table 7 and removed 7/4. Updated statuses on 19/2, 19/3, 19/4, 23/1, 23/5. Removed 24/3 and associated C.2, and renamed section from "Security Requirements" to "SM". TSE 18718 (rating 1): Editorials to align the document with the latest ICS template in anticipation of a .Z release. Assigned publication number 0 to previous v1.0.0 and aligned copyright page with v2 of the DNMD. Consistency checker editorials.
1	p1	2022-06-28	Approved by BTI on 2022-05-31. Prepared for TCRL 2022-1 publication.
	p2r00–r04	2023-09-26 – 2024-03-19	TSE 23354 (rating 2): Resolved GAP and SM inter-layer dependencies. In Table 6, added Items 7 and 8 and conditional C.4. Marked Tables 7 and 24 as no longer used. In Table 22, marked Item 1 as no longer used and updated the Capability and ILD values for Items 2 and 3. In Table 23, added Items 6 and 7. Made editorial edits to align the document with the latest ICS template. Updated the references. TSE 25099 (rating 2): Added ILD item for FTMS 3/17 (Item 1a to Table 4). Deleted draft revision history comments prior to p0.
2	p2	2024-07-01	Approved by BTI on 2024-04-21. Prepared for TCRL 2024-1 publication.
	p3r00–03	2024-07-30 – 2024-08-29	TSE 17240 (rating 4): Per E17170, added Table 0a and item 1 for FTMP v1.0.1. Added Table 12a. Added new items FTMP 9/8a and FTMP 12/10. Added a reference for Fitness Machine Profile Specification 1.0.1. TSE 25577 (rating 1): Per E15788, E17170, and E18750, added new X.Y.Z version as part of the .Z release. Performed template-related formatting fixes.
3	p3	2024-10-08	Approved by BTI on 2024-09-11. FTMP v1.0.1 adopted by the BoD on 2024-10-01. Prepared for TCRL 2024-2-addition publication.
	p3ed2r00–r01	2025-07-09 – 2025-07-15	TSE 27372 (rating 1): Updated the Status field for FTMP 3/1 and FTMP 3/2, added conditions C.1 and C.2, and renumbered the previous C.1 as C.3.
	p3 edition 2	2025-08-05	Approved by BTI on 2025-08-05. Prepared for edition 2 publication.

Publication Number	Revision Number	Date	Comments
	p4r00	2025-08-11	TSE 27552 (rating 1): Updated the ILD column for Items 6/1 and 23/1 to delete references to GAP Table 38.
4	p4	2025-11-04	Approved by BTI on 2025-10-02. Prepared for TCRL publication.

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