Electronic Shelf Label Profile (ESLP)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

- **Revision:** ESLP.ICS.p5
- **Revision Date:** 2026-02-17
- **Prepared By:** Electronic Shelf Label 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 Roles

Table 1: Role Requirements

Item	Role	Reference	Status
1	Electronic Shelf Label (ESL)	[1] 2.1	C.1
2	Access Point (AP)	[1] 2.1	C.1

C.1:   Mandatory to support at least one.

2.2 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.

2.3 Electronic Shelf Label Role

2.3.1 Versions

Table 10: X.Y Versions (ESL)

Prerequisite: ESLP 1/1 "Electronic Shelf Label (ESL)"

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

Table 11: X.Y.Z Versions (ESL)

Item	Version	Reference	Status
1	ESLP v1.0.1	[9]	C.1

C.1:   Optional IF ESLP 10/1 "ESLP v1.0", otherwise Excluded.

2.3.2 Features

Table 12: ESL, Features

Prerequisite: ESLP 1/1 "Electronic Shelf Label (ESL)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Synchronized State	[1] 3.1.3	M	N/A
2	OTS Transfer of Image Data	[1] 3.2	O	N/A
3	Vendor Specific Opcodes	[1] 5.2	O	N/A

Item	Capability	Reference	Status	Inter-Layer Dependency
4	ESL Display Information characteristic	[1] 5.2 [8] 3.5	C.1	[2] ESLS 3/5
5	One display	[8] 2.7.2.1	O	[2] ESLS 3/10
6	More than one display	[8] 2.7.2.1	O	[2] ESLS 3/11
7	ESL Sensor Information characteristic	[1] 5.2 [8] 3.7	C.2	[2] ESLS 3/7
8	One sensor	[8] 2.7.2.3	O	[2] ESLS 3/14
9	More than one sensor	[8] 2.7.2.3	O	[2] ESLS 3/15
10	ESL LED Information characteristic	[1] 5.2 [8] 3.8	C.3	[2] ESLS 3/8
11	One LED	[8] 2.7.2.2	O	[2] ESLS 3/12
12	More than one LED	[8] 2.7.2.2	O	[2] ESLS 3/13
13	Ignore invalid commands in Synchronization Mode	[9]	O	N/A

C.1:   (Reverse ILD) Mandatory IF ESLS 3/5 "ESL Display Information characteristic", otherwise Excluded.

C.2:   (Reverse ILD) Mandatory IF ESLS 3/7 "ESL Sensor Information characteristic", otherwise Excluded.

C.3:   (Reverse ILD) Mandatory IF ESLS 3/8 "ESL LED Information characteristic", otherwise Excluded.

2.3.3   Profile and Service Dependencies

Table 13: ESL, Profile and Service Dependencies

Prerequisite: ESLP 1/1 "Electronic Shelf Label (ESL)"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Electronic Shelf Label Service (ESLS)	[1] 3	M	[2] ESLS
2	Object Transfer Profile (OTP)	[1] 2.2.3	C.1	[6] OTP
3	Device Information Service (DIS)	[1] 3.3	C.2	[7] DIS

C.1:   Mandatory IF ESLP 12/2 "OTS Transfer of Image Data", otherwise not defined.

C.2:   Mandatory IF ESLP 12/3 "Vendor Specific Opcodes", otherwise Optional.

2.3.4   Feature Requirements in Dependent Profiles

2.3.4.1   ESL Object Transfer Profile requirements

Table 14: ESL, Object Transfer Profile Requirements

Prerequisite: ESLP 13/2 "Object Transfer Profile (OTP)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Object Server	[1] 3.2	M	[5] OTP 2/1

2.3.4.2 ESL Object Transfer Service requirements

Table 15: ESL, Object Transfer Service Requirements

Prerequisite: ESLP 12/2 "OTS Transfer of Image Data"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	OACP Write Procedure	[1] 3.2	M	[5] OTS 5/6
2	Truncation of Objects (decreasing the object's Current Size)	[1] 3.2	M	[5] OTS 5/8

2.3.4.3 ESL Device Information Service requirements

Table 16: ESL, Device Information Service Requirements

Prerequisite: ESLP 13/3 "Device Information Service (DIS)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	PnP ID	[1] 3.3	M	[7] DIS 2/11

2.3.5 Feature Requirements in Core Layers

2.3.5.1 GAP requirements

Table 17: ESL, GAP Requirements

Prerequisite: ESLP 1/1 "Electronic Shelf Label (ESL)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Peripheral	[1] 2.4	M	[4] GAP 5/3
2	Bondable mode	[1] 8.1	M	[4] GAP 24/2
3	Unauthenticated Pairing (LE security mode 1 level 2)	[1] 8.1	C.1	[4] GAP 25/8
4	Authenticated Pairing (LE security mode 1 level 3)	[1] 8.1	C.1	[4] GAP 25/7
5	LE security mode 1 level 4	[1] 8.1	C.1	[4] GAP 25/9
6	Encrypted Data	[1] 8.3	M	[4] GAP 20a/19
7	LE Secure Connections	[1] 8.1	M	[4] GAP 27b/5
8	Periodic Advertising Connection	[1] 3.1.2	M	[4] GAP 23/9

C.1: Mandatory to support at least one.

Table 19: No longer used

2.4 Access Point Role

2.4.1 Versions

Table 30: X.Y Versions (AP)

Prerequisite: ESLP 1/2 "Access Point (AP)"

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

Table 31: X.Y.Z Versions (AP)

Item	Version	Reference	Status
1	ESLP v1.0.1	[9]	C.1

C.1:   Optional IF ESLP 30/1 "ESLP v1.0", otherwise Excluded.

2.4.2 Features

Table 32: AP, Characteristics

Prerequisite: ESLP 1/2 "Access Point (AP)"

Item	Capability	Reference	Status
1	Discover ESL Address characteristic	[1] 4.2.1.1	M
2	Discover AP Sync Key Material characteristic	[1] 4.2.1.2	M
3	Discover ESL Response Key Material characteristic	[1] 4.2.1.3	M
4	Discover ESL Current Absolute Time characteristic	[1] 4.2.1.4	M
5	Discover ESL Display Information characteristic	[1] 4.2.1.5	M
6	Discover ESL Image Information characteristic	[1] 4.2.1.6	M
7	Discover ESL Sensor Information characteristic	[1] 4.2.1.7	M
8	Discover ESL LED Information characteristic	[1] 4.2.1.8	M
9	Discover ESL Control Point characteristic	[1] 4.2.1.9	M

Table 33: AP, Control Point Commands

Prerequisite: ESLP 32/9 "Discover ESL Control Point characteristic"

Item	Capability	Reference	Status
1	Ping	[1] 4.2.1.9	M
2	Unassociate from AP	[1] 4.2.1.9	M
3	Service Reset	[1] 4.2.1.9	M
4	Factory Reset	[1] 4.2.1.9	M
5	Read Sensor Data	[1] 4.2.1.9	M
6	Refresh Display	[1] 4.2.1.9	M
7	Update Complete	[1] 4.2.1.9	M
8	Display Image	[1] 4.2.1.9	M
9	Display Timed Image	[1] 4.2.1.9	M

Item	Capability	Reference	Status
10	LED Control	[1] 4.2.1.9	M
11	LED Timed Control	[1] 4.2.1.9	M
12	Vendor-Specific Tag	[1] 4.2.1.9	M

Table 34: AP, Procedure Requirements

Prerequisite: ESLP 1/2 "Access Point (AP)"

Item	Capability	Reference	Status
1	Discover ESLs	[1] 5.1	M
2	Securing ESLs	[1] 5.2	M
3	Configure an ESL	[1] 5.2, 6.1.1	M
4	Update a Stored Image on an ESL	[1] 6.1.2	M
5	Control LED(s) in Updating State	[1] 6.1.3	M
6	Transition to Synchronized State	[1] 6.1.5	M
7	Check ESL is Still in Synchronized State	[1] 6.2.4	M
8	Control LED in Synchronized State	[1] 6.2.1	M
9	Transition to Unassociated State	[1] 6.1.4	M
10	Control Displayed Image in Synchronized State	[1] 6.2.2	M
11	Read Sensor Data in Synchronized State	[1] 6.2.3	M
12	Move from Synchronized to Updating State	[1] 6.2.5	M

2.4.3 Profile and Service Dependencies

Table 35: AP, Profile and Service Dependencies

Prerequisite: ESLP 1/2 "Access Point (AP)"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Object Transfer Profile (OTP)	[1] 4.4	M	[6] OTP

2.4.4 Feature Requirements in Dependent Profiles

2.4.4.1 AP Object Transfer Profile requirements

Table 36: AP, Object Transfer Profile Requirements

Prerequisite: ESLP 35/1 "Object Transfer Profile (OTP)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Object Client	[1] 4.4	M	[5] OTP 2/2
2	Write Object – Write Object Contents	[1] 4.4	M	[5] OTP 8/21
3	Truncate Object Contents	[1] 4.4	O	[5] OTP 8/31

2.4.5 Feature Requirements in Core Layers

2.4.5.1 GAP requirements

Table 37: AP, GAP Requirements

Prerequisite: ESLP 1/2 "Access Point (AP)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Central	[1] 2.4	M	[4] GAP 5/4
2	Bondable mode	[1] 8.1	M	[4] GAP 34/2
3	Unauthenticated Pairing (LE security mode 1 level 2)	[1] 8.1	C.1	[4] GAP 35/8
4	Authenticated Pairing (LE security mode 1 level 3)	[1] 8.1	C.1	[4] GAP 35/7
5	LE security mode 1 level 4	[1] 8.1	C.1	[4] GAP 35/9
6	Encrypted Advertising Data Procedure	[1] 8.2	M	[4] GAP 35/14
7	LE Secure Connections	[1] 8.1	M	[4] GAP 37b/5
8	Periodic Advertising Connection procedure	[1] 4.1	M	[4] GAP 33/10

C.1:   Mandatory to support at least one.

2.4.5.2 GATT requirements

Table 38: AP, GATT Requirements

Prerequisite: ESLP 1/2 "Access Point (AP)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	GATT Client over LE	[1] 2.2	M	[3] GATT 1a/1
2	Discover All Primary Services	[1] 4.3	C.1	[3] GATT 3/2
3	Discover Primary Service by Service UUID	[1] 4.3	C.1	[3] GATT 3/3
4	Discover All Characteristics of a Service	[1] 4.3	C.2	[3] GATT 3/5
5	Discover Characteristics by UUID	[1] 4.3	C.2	[3] GATT 3/6
6	Discover All Characteristic Descriptors	[1] 4.3	M	[3] GATT 3/7
7	Read Characteristic Descriptor	[1] 4.3	M	[3] GATT 3/19
8	Write Characteristic Descriptor	[1] 4.3	M	[3] GATT 3/21
9	Read Characteristic Value	[1] 4.3	M	[3] GATT 3/8
10	Read Long Characteristic Value	[1] 4.3	M	[3] GATT 3/10
11	Write Characteristic Value	[1] 4.3	M	[3] GATT 3/14
12	Write Without Response	[1] 4.3	O	[3] GATT 3/12
13	Single Notification	[1] 4.3	M	[3] GATT 3/17

C.1:   Mandatory to support at least one.

C.2:   Mandatory to support at least one.

3   References

[1]   Electronic Shelf Label Profile Specification, Version 1.0 or later

[2]   ICS Proforma for Electronic Shelf Label Service (ESLS)

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

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

[5]   ICS Proforma for Object Transfer Service (OTS)

[6]   ICS Proforma for Object Transfer Profile (OTP)

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

[8]   Electronic Shelf Label Service Specification, Version 1.0 or later

[9]   Electronic Shelf Label Profile Specification, Version 1.0.1

4   Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	p0	2023-04-04	Approved by BTI on 2023-03-15. ESLP v1.0 adopted by the BoD on 2023-03-28. Prepared for initial publication.
	p1r00–r01	2023-08-15 – 2023-12-12	TSE 22892 (rating 1): Added "ESL" to the relevant characteristic names in Table 32 (AP, Characteristics). Editorials to align with the latest ICS template.
1	p1	2024-07-01	Approved by BTI on 2024-04-21. Prepared for TCRL 2024-1 publication.
	p2r00–r05	2024-10-03 – 2024-12-11	TSE 25550 (rating 2): Updated Table 12 to add Items 4–12, conditionals C.1–C.3, and an Inter-Layer Dependency column.
2	p2	2025-02-18	Approved by BTI on 2024-12-23. Prepared for TCRL 2025-1 publication.
	p3r00–r05	2025-02-13 – 2025-06-03	TSE 26607 (rating 2): Added 17/8 and 37/8. TSE 27100 (rating 1): For Table 2, updated the Status value for 2/2 and added conditionals C.2 and C.3. Updated the ESLP version phrasing in Tables 10 and 30. Deleted the "GATT requirements" section and marked Table 19 as "No longer used". TSE 27271 (rating 2): Updated the title of Tables 10 and 30. Updated the Reference value for ESLP 10/1 and ESLP 30/1. Added Tables 11 and 31. Updated the references list. TSE 27421 (rating 2): Per E25038, added ESLP v1.0.1 version to Tables 11 and 31 and updated the references.
3	p3	2025-07-08	Approved by BTI on 2025-06-15. ESLP v1.0.1 adopted by the BoD on 2025-06-30. Prepared for TCRL pkg100 publication.
	p4r00	2025-07-10	TSE 27549 (rating 1): Updated the ILD field for ESLP 17/1 and ESLP 37/1. TSE 27795 (rating 4): Added ESLP 12/13.
4	p4	2025-11-04	Approved by BTI on 2025-10-02. Prepared for TCRL pkg101 publication.
	p5r00–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.
5	p5	2026-02-17	Approved by BTI on 2026-01-21. Prepared for TCRL pkg102 publication.

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