Media Control Profile (MCP)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

- **Revision:** MCP.ICS.p2
- **Revision Date:** 2024-07-01
- **Prepared By:** Generic Audio Working Group
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Contents

1 Identification of the implementation

1.1 Implementation Under Test (IUT) identification

Identification of the Implementation Under Test (IUT) is to be filled in to provide as much detail as possible regarding version numbers and configuration options.

An ICS contact person to respond to queries regarding information supplied in this ICS proforma is named in the Declaration of Compliance: Summary of Selected Specifications in Implementation.

1.2   Roles and transports

Table 1: Role Requirements

Item	Role	Reference	Status
1	Media Control Server	[1] 3	C.1
2	Media Control Client	[1] 4	C.1

C.1:   Mandatory to support at least one.

Table 2: Transport Requirements

Item	Transport	Reference	Status
1	Profile supported over BR/EDR	[1] 2.4	C.1
2	Profile supported over LE	[1] 2.4	C.1

C.1:   Mandatory to support at least one.

1.3   Media Control Server role

1.3.1   Versions – Media Control Server role

Table 3: Media Control Server, X.Y Versions

Prerequisite: MCP 1/1 "Media Control Server"

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

Table 4: Media Control Server, X.Y.Z Versions

Table number reserved but not yet in use

1.3.2   Services – Media Control Server role

Table 5: Service Requirements

Prerequisite: MCP 1/1 "Media Control Server"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Media Control Service	[1] 3	O	[5] MCS 0b/1
2	Generic Media Control Service	[1] 3	M	[5] MCS 0b/2
3	Object Transfer Service	[1] 3	O	[4] OTS
4	LE Extended Advertising	[1] 6.1.1.1	M	[6] LL 9/41

1.3.3 GAP requirements

Table 6: GAP Requirements – Media Control Server Role

Prerequisite: MCP 1/1 "Media Control Server"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	LE security mode 1	[1] 5.1	C.1	[2] GAP 25/1 OR GAP 35/1
2	Bondable mode (LE)	[1] 5.1.1	C.1	[2] GAP 24/2 OR GAP 34/2
3	Bonding procedure (LE)	[1] 5.1.1	C.1	[2] GAP 24/3 OR GAP 34/3
4	Unauthenticated Pairing (LE security mode 1 level 2) with LE Secure Connections Pairing only	[1] 5	C.6	[2] GAP 25/11 OR GAP 35/11
5	Authenticated Pairing (LE security mode 1 level 3) with LE Secure Connections Pairing only	[1] 5	C.6	[2] GAP 25/12 OR GAP 35/12
6	LE security mode 1 level 4	[1] 5	C.6	[2] GAP 25/9 OR GAP 35/9
7	Minimum 128 Bit entropy key (LE)	[1] 5	C.3	[2] GAP 25/13 OR GAP 35/13
8	Derivation of LE LTK from BR/EDR Link Key	[1] 5.1	C.8	[2] GAP 43/2b OR GAP 41/2b
9	Security mode 4, level 2	[1] 5.2	C.2	[2] GAP 2/7c
10	128-bit encryption key size capable (BR/EDR)	[1] 5.2	C.2	[2] GAP 2/13
11	Derivation of BR/EDR Link Key from LE LTK	[1] 5.2	C.7	[2] GAP 43/2a OR GAP 41/2a
12	BR/EDR Secure Connections	[1] 5.2	C.7	N/A
13	LE Secure Connections	[1] 5.1	C.8	[2] GAP 27b/5 OR GAP 37b/5
14	Out of Band (LE)	[1] 5.1	C.8	[2] GAP 27b/9 OR GAP 37b/9
15	Out-of-Band (BR/EDR)	[1] 5.2	C.7	[2] GAP 2/14

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

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

C.3:   Mandatory IF MCP 6/4 "Unauthenticated Pairing (LE security mode 1 level 2) with LE Secure Connections Pairing only" OR MCP 6/5 "Authenticated Pairing (LE security mode 1 level 3) with LE Secure Connections Pairing only", otherwise not defined.

C.4–C.5:   No longer used.

C.6:   Mandatory to support at least one IF MCP 2/2 "Profile supported over LE", otherwise not defined.

C.7:   Mandatory to support at least one IF MCP 2/1 "Profile supported over BR/EDR", otherwise not defined.

C.8:   Mandatory to support at least one IF MCP 2/2 "Profile supported over LE", otherwise not defined.

Table 7: No longer used

1.3.4 OTP requirements

Table 8: OTP Requirements – Media Control Server Role

Prerequisite: MCP 5/3 "Object Transfer Service"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Object Server	[1] 3	M	[7] OTP 2/1

Table 9: OTS Characteristics Requirements – Media Control Server Role

Prerequisite: MCP 5/3 "Object Transfer Service"

Item	Feature	Reference	Status	Inter-Layer Dependency
1	Object ID Characteristic	[3] 3.2.7	M	[4] OTS 4/12
2	Object List Control Point (OLCP)	[3] 3.4	M	[4] OTS 4/16
3	Object Changed Characteristic	[3] 3.6	M	[4] OTS 4/20

Table 10: OTS Feature Requirements – Media Control Server Role

Prerequisite: MCP 5/3 "Object Transfer Service"

Item	Feature	Reference	Status	Inter-Layer Dependency
1	OACP Read Procedure	[3] 3.3.2.5	M	[4] OTS 5/5
2	OLCP Go To Procedure	[3] 3.4.2.5	M	[4] OTS 6/5

1.4 Media Control Client role

1.4.1 Versions – Media Control Client role

Table 11: Media Control Client, X.Y Versions

Prerequisite: MCP 1/2 "Media Control Client"

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

Table 12: Media Control Client, X.Y.Z Versions

Table number reserved but not yet in use

1.4.2　Services Support – Media Control Client role

1.4.2.1　Media Control Service

Table 13: Media Control Service Support

Prerequisite: MCP 1/2 "Media Control Client"

Item	Service	Reference	Status
1	Discover Media Control Service	[1] 4	C.1
2	Discover Generic Media Control Service	[1] 4	C.1
3	Discover Object Transfer Service	[1] 4	C.2

C.1:　Mandatory to support at least one.

C.2:　Mandatory IF MCP 14/20 "Search Results Object ID Characteristic" OR MCP 16/20 "Search Results Object ID Characteristic" OR MCP 14/10 "Current Track Segments Object ID Characteristic" OR MCP 16/10 "Current Track Segments Object ID Characteristic" OR MCP 14/11 "Current Track Object ID Characteristic" OR MCP 16/11 "Current Track Object ID Characteristic", otherwise Optional.

Table 14: Media Control Service Characteristic Support Requirements

Prerequisite: MCP 13/1 "Discover Media Control Service"

Item	Feature	Reference	Status
1	Media Player Name Characteristic	[1] 4.5.1	M
2	Media Player Icon Object ID Characteristic	[1] 4.5.1	O
3	Media Player Icon URL Characteristic	[1] 4.5.1	O
4	Track Changed Characteristic	[1] 4.6.1	O
5	Track Title Characteristic	[1] 4.5.3	O
6	Track Duration Characteristic	[1] 4.5.4	O
7	Track Position Characteristic	[1] 4.5.5	O
8	Playback Speed Characteristic	[1] 4.5.8	O
9	Seeking Speed Characteristic	[1] 4.5.10	O
10	Current Track Segments Object ID Characteristic	[1] 4.5.11	O
11	Current Track Object ID Characteristic	[1] 4.5.12	O
12	Next Track Object ID Characteristic	[1] 4.5.14	O
13	Parent Group Object ID Characteristic	[1] 4.5.18	O
14	Current Group Object ID Characteristic	[1] 4.5.17	O
15	Playing Order Characteristic	[1] 4.5.19	O
16	Playing Order Supported Characteristic	[1] 4.5.21	O
17	Media State Characteristic	[1] 4.5.22	O
18	Media Control Point Characteristic	[1] 4.5	O
19	Media Control Point Opcodes Supported Characteristic	[1] 4.5.42	O
20	Search Results Object ID Characteristic	[1] 4.5.43	O
21	Search Control Point Characteristic	[1] 4.5.43	C.1
22	Content Control ID Characteristic	[1] 4.5.44	O

C.1:　Mandatory IF MCP 14/20 "Search Results Object ID Characteristic", otherwise Excluded.

Table 15: Media Control Point Procedure Requirements

Prerequisite: MCP 14/18 "Media Control Point Characteristic"

Item	Feature	Reference	Status
1	Play Current Track Procedure	[1] 4.5.22	O
2	Pause Current Track Procedure	[1] 4.5.23	O
3	Fast Forward Fast Rewind Procedure	[1] 4.5.24	O
4	Stop Current Track Procedure	[1] 4.5.25	O
5	Move Relative Procedure	[1] 4.5.7	O
6	Move to Previous Segment Procedure	[1] 4.5.26	O
7	Move to Next Segment Procedure	[1] 4.5.27	O
8	Move to First Segment Procedure	[1] 4.5.28	O
9	Move to Last Segment Procedure	[1] 4.5.29	O
10	Move to Segment Number Procedure	[1] 4.5.30	O
11	Move to Previous Track Procedure	[1] 4.5.31	O
12	Move to Next Track Procedure	[1] 4.5.32	O
13	Move to First Track Procedure	[1] 4.5.33	O
14	Move to Last Track Procedure	[1] 4.5.34	O
15	Move to Track Number Procedure	[1] 4.5.35	O
16	Move to Previous Group Procedure	[1] 4.5.36	O
17	Move to Next Group Procedure	[1] 4.5.37	O
18	Move to First Group Procedure	[1] 4.5.38	O
19	Move to Last Group Procedure	[1] 4.5.39	O
20	Move to Group Number Procedure	[1] 4.5.40	O

1.4.2.2   Generic Media Control Service

Table 16: Generic Media Control Service Characteristic Support Requirements

Prerequisite: MCP 13/2 "Discover Generic Media Control Service"

Item	Feature	Reference	Status
1	Media Player Name Characteristic	[1] 4.5.1	M
2	Media Player Icon Object ID Characteristic	[1] 4.5.1	O
3	Media Player Icon URL Characteristic	[1] 4.5.1	O
4	Track Changed Characteristic	[1] 4.6.1	O
5	Track Title Characteristic	[1] 4.5.3	O
6	Track Duration Characteristic	[1] 4.5.4	O
7	Track Position Characteristic	[1] 4.5.5	O
8	Playback Speed Characteristic	[1] 4.5.8	O
9	Seeking Speed Characteristic	[1] 4.5.10	O
10	Current Track Segments Object ID Characteristic	[1] 4.5.11	O
11	Current Track Object ID Characteristic	[1] 4.5.12	O

Item	Feature	Reference	Status
12	Next Track Object ID Characteristic	[1] 4.5.14	O
13	Parent Group Object ID Characteristic	[1] 4.5.18	O
14	Current Group Object ID Characteristic	[1] 4.5.17	O
15	Playing Order Characteristic	[1] 4.5.19	O
16	Playing Order Supported Characteristic	[1] 4.5.21	O
17	Media State Characteristic	[1] 4.5.22	O
18	Media Control Point Characteristic	[1] 4.5	O
19	Media Control Opcodes Supported Characteristic	[1] 4.5.42	O
20	Search Results Object ID Characteristic	[1] 4.5.43	O
21	Search Control Point Characteristic	[1] 4.5.43	C.1
22	Content Control ID Characteristic	[1] 4.5.44	O

C.1:   Mandatory IF MCP 16/20 "Search Results Object ID Characteristic", otherwise Excluded.

Table 17: Media Control Point Procedure Requirements

Prerequisite: MCP 16/18 "Media Control Point Characteristic"

Item	Feature	Reference	Status
1	Play Current Track Procedure	[1] 4.5.22	O
2	Pause Current Track Procedure	[1] 4.5.23	O
3	Fast Forward Fast Rewind Procedure	[1] 4.5.24	O
4	Stop Current Track Procedure	[1] 4.5.25	O
5	Move Relative Procedure	[1] 4.5.7	O
6	Move to Previous Segment Procedure	[1] 4.5.26	O
7	Move to Next Segment Procedure	[1] 4.5.27	O
8	Move to First Segment Procedure	[1] 4.5.28	O
9	Move to Last Segment Procedure	[1] 4.5.29	O
10	Move to Segment Number Procedure	[1] 4.5.30	O
11	Move to Previous Track Procedure	[1] 4.5.31	O
12	Move to Next Track Procedure	[1] 4.5.32	O
13	Move to First Track Procedure	[1] 4.5.33	O
14	Move to Last Track Procedure	[1] 4.5.34	O
15	Move to Track Number Procedure	[1] 4.5.35	O
16	Move to Previous Group Procedure	[1] 4.5.36	O
17	Move to Next Group Procedure	[1] 4.5.37	O
18	Move to First Group Procedure	[1] 4.5.38	O
19	Move to Last Group Procedure	[1] 4.5.39	O
20	Move to Group Number Procedure	[1] 4.5.40	O

1.4.3   GAP requirements

Table 18: GAP Requirements – Media Control Client Role

Prerequisite: MCP 1/2 "Media Control Client"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No longer used	N/A	N/A	N/A
2	LE security mode 1	[1] 5.1	C.1	[2] GAP 25/1 OR GAP 35/1
3	Bondable mode (LE)	[1] 6.2	C.1	[2] GAP 24/2 OR GAP 34/2
4	Bonding procedure	[1] 6.2	C.1	[2] GAP 24/3 OR GAP 34/3
5	Unauthenticated Pairing (LE security mode 1 level 2) with LE Secure Connections Pairing only	[1] 5.1	O	[2] GAP 25/11 OR GAP 35/11
6	Authenticated Pairing (LE security mode 1 level 3) with LE Secure Connections Pairing only	[1] 5.1	O	[2] GAP 25/12 OR GAP 35/12
7	LE security mode 1 level 4	[1] 5.1	O	[2] GAP 25/9 OR GAP 35/9
8	Minimum 128 Bit entropy key (LE)	[1] 5.1	C.5	[2] GAP 25/13 OR GAP 35/13
9	Derivation of LE LTK from BR/EDR Link Key	[1] 5.1	C.6	[2] GAP 43/2b OR GAP 41/2b
10	Security mode 4, level 2	[1] 5.2	C.2	[2] GAP 2/7c
11	128-bit encryption key size capable (BR/EDR)	[1] 5.2	C.2	[2] GAP 2/13
12	Derivation of BR/EDR Link Key from LE LTK	[1] 5.2	C.7	[2] GAP 43/2a OR GAP 41/2a
13	BR/EDR Secure Connections	[1] 5.2	C.7	N/A
14	LE Secure Connections	[1] 5.1	C.6	[2] GAP 27b/5 OR GAP 37b/5
15	Out of Band (LE)	[1] 5.1	C.6	[2] GAP 27b/9 OR GAP 37b/9
16	Out-of-Band (BR/EDR)	[1] 5.2	C.7	[2] GAP 2/14

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

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

C.3–C.4:   No longer used.

C.5:   Mandatory IF MCP 18/5 "Unauthenticated Pairing (LE security mode 1 level 2) with LE Secure Connections Pairing only" OR MCP 18/6 "Authenticated Pairing (LE security mode 1 level 3) with LE Secure Connections Pairing only", otherwise not defined.

C.6:   Mandatory to support at least one IF MCP 2/2 "Profile supported over LE", otherwise not defined.

C.7:   Mandatory to support at least one IF MCP 2/1 "Profile supported over BR/EDR", otherwise not defined.

Table 19: No longer used

1.4.4   OTP requirements

Table 20: OTP Requirements – Media Control Client Role

Prerequisite: MCP 13/3 "Discover Object Transfer Service"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Object Client	[1] 3	M	[7] OTP 2/2

Table 21: OTP Procedure Requirements – Media Control Client Role

Prerequisite: MCP 13/3 "Discover Object Transfer Service"

Item	Feature	Reference	Status	Inter-Layer Dependency
1	Object Discovery – Discover All Objects	[1] 3	M	[7] OTP 8/2
2	Select Object – Select by Object ID	[1] 3	M	[7] OTP 8/17
3	Read Object – Read Object Contents	[1] 3	M	[7] OTP 8/19

2 References

[1]   Media Control Profile Specification, Version 1.0 or later

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

[3]   Object Transfer Service Specification, Version 1.0 or later

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

[5]   ICS Proforma for Media Control Service (MCS)

[6]   ICS Proforma for Link Layer (LL)

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

3   Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	p0	2021-03-16	Approved by BTI on 2021-02-25. MCP v1.0 adopted by the BoD on 2021-03-09. Prepared for publication.
	p1r00–r02	2021-04-19 – 2021-05-30	TSE 16754 (rating 1): Updated the inter-layer dependencies in GAP Tables 6 and 18. Removed item 18/1. Consistency checker fixes.
1	p1	2021-07-13	Approved by BTI on 2021-06-01. Prepared for TCRL 2021-1 publication.
	p1ed2r00	2022-01-25	TSE 18188 (rating 1): Updated Link Layer inter-layer dependency item in Table 5 to align with updates made in the LL ICS. Made template-related fixes, including aligning the copyright page with v2 of the DNMD.
	p1 edition 2	2022-01-27	Approved by BTI on 2022-01-27. Prepared for edition 2 publication.
	p1ed3r00	2023-02-15	TSE 22635 (rating 1): Replaced ILD references to Security Manager 8/1 with SM 8a/1 (for Central role) or SM 8b/1 (for Peripheral role) in Tables 7 and 19. Updated references. Editorials to align the document with the latest ICS template.
	p1 edition 3	2023-03-15	Approved by BTI on 2023-03-13. Prepared for edition 3 publication.
	p2r00–r03	2023-10-04 – 2024-01-08	TSE 23341 (rating 2): To resolve GAP/SM ILDs: Removed the SM ICS item from the References section and updated cross-refs throughout the doc. Updated "or" to "OR" in ILDs throughout the doc. In Table 6, added items 6/12–6/15 and updated conditionals and statuses accordingly. Removed SM requirements heading and deleted Table 7. Updated service names of 13/1–13/3 and related prerequisites for Tables 14, 16, 20, and 21. In Table 18, added items 18/13–18/16 and updated conditionals and statuses accordingly. Removed SM requirements heading and deleted Table 19. TSE 24103 (rating 1): Removed GMCS ICS from the References section. Updated MCS and GMCS ILDs in Table 5. TSE 24772 (rating 2): Added OTP ILDs to 8/1, 20/1, and 21/1–21/3. Template-related editorials, including removing the draft entries from the rev history.
2	p2	2024-07-01	Approved by BTI on 2024-04-21. Prepared for TCRL 2024-1 publication.

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