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Terms and Abbreviations

CDB	Common Data Bus

MirrorLink is a registered trademark of the Car Connectivity Consortium LLC.

Bluetooth is a registered trademark of Bluetooth SIG Inc.

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1 ABOUT

This document specifies all MirrorLink protocol conformance test cases of the Common Data Bus [2].

The specification lists a series of requirements, either explicitly or within the text, which are mandatory elements for a compliant solutions. Recommendations are given, to ensure optimal usage and to provide suitable performance. All recommendations are optional.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are following the notation as described in RFC 2119 [1].

1. MUST: This word, or the terms "REQUIRED" or "SHALL", mean that the definition is an absolute requirement of the specification.
2. MUST NOT: This phrase, or the phrase "SHALL NOT", mean that the definition is an absolute prohibition of the specification.
3. SHOULD: This word, or the adjective "RECOMMENDED", mean that there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.
4. SHOULD NOT: This phrase, or the phrase "NOT RECOMMENDED" mean that there may exist valid reasons in particular circumstances when the particular behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.
5. MAY: This word, or the adjective "OPTIONAL", means that an item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because the vendor feels that it enhances the product while another vendor may omit the same item. An implementation which does not include a particular option MUST be prepared to interoperate with another implementation which does include the option, though perhaps with reduced functionality. In the same vein an implementation which does include a particular option MUST be prepared to interoperate with another implementation which does not include the option (except, of course, for the feature the option provides.)

2 DEFINITIONS

2.1 Execution of Test Cases

Every test case is uniquely identified by an identifier.

- A MirrorLink Server MUST pass all test cases, starting with SC, if it implements a CDB Source endpoint.
- A MirrorLink Server MUST pass all test cases, starting with SK, if it implements a CDB Sink endpoint
- A MirrorLink Client MUST pass all test cases, starting with SC, if it implements a CDB Source endpoint,
- A MirrorLink Client MUST pass all test cases, starting with SK, if it implements a CDB Sink endpoint

Every test case description includes an entry, whether the test cases is considered mandatory or not.

- Test cases marked as MANDATORY, MUST be executed.
- Test cases marked as CONDITIONAL, MUST be executed if the given condition is met.
- Test cases marked as CONDITIONAL, MUST NOT be executed if the given condition is not met.
- Test cases marked as NONE, MUST NOT be executed

The CTS MUST allow for a grace period of 10% for all timeout values (if not specifically noted otherwise) for a test case to pass, but a note MUST be made in the test report in case the DUT is using the grace period.

2.2 Server Definitions

The following definitions are frequently used in different server test cases. Usage is indicated by the given designator name.

2.2.1 CDB Server Endpoint Connect

Defines the steps for launching and connecting the CDB server

Step	Name	Description	Expected Result
1	UPnP Connect	Prepare the UPnP connection by making an initialization, registering the client and waiting for the device to announce itself.	• The device does announce itself.
2	UPnP Device Description	Read the server's device description from the announced URL.	• Device description can be parsed • Support for TmApplicationServer:1 service • Support for TmClientProfile:1 service
3	UPnP Application Listing	Call UPnP ApplicationServer:1 GetApplicationList action and receive server's application list	• Device responds to GetApplicationList action
4	CDB identification	Identify the CDB server, checking for CDB protocolID	• Successful identification of CDB server • Only 1 CDB server provided
5	UPnP Launch Application	Call UPnP ApplicationServer:1 LaunchApplication action and receive the CDB server's URL.	• Receive URL, without getting an error message or a timeout.

2.2.2 CDB Server Endpoint Disconnect

Defines the steps for disconnecting the CDB server

Step	Name	Description	Expected Result
1	CDB ByeBye	Send a CDB ByeBye message	• Server sends CDB ByeBye message
2	CDB Terminate Application	Disconnect TCP Call UPnP ApplicationServer:1 TerminateApplication action	• No further CDB messages received • Receive TRUE response
3	CDB Disconnect	Disconnect TCP connection	• TCP connection disconnected

2.3 Client Definitions

The following definitions are frequently used in different client test cases. Usage is indicated by the given designator name.

2.3.1 CDB Client Endpoint Connect

Defines the steps for launching and connecting the CDB client

Step	Name	Description	Expected Result
1	UPnP Connect	Announce the device to the client. Note: Send UPnP Bye-Bye message, prior UPnP connect, if UPnP Server is still operational.	• UPnP announcement broadcast is read • UPnP control point requests the server's device description from provided URL
2	UPnP Device Description	Receive request to provide the server device description. Include TmApplicationServer:1 service into the response.	• Client sends UPnP ApplicationServer:1 GetApplicationList action
3	CDB identification	Receive UPnP ApplicationServer:1 GetApplicationList action. Include a CDB server into the response. User is asked to launch any VNC application, if Client is not launching the CDB server endpoint automatically.	• Client sends UPnP ApplicationServer:1 LaunchApplication action for CDB server endpoint • CDB server endpoint launched prior to the launch of the VNC based application
4	CDB Launch	Receive UPnP ApplicationServer:1 LaunchApplication action. Provide URL	• CDB client endpoint makes a TCP connection to the CDB server endpoint
5	CDB Connect	Wait for TCP connection	• TCP socket connected

2.3.2 CDB Client Endpoint Disconnect

Defines the steps for disconnecting the CDB client

Step	Name	Description	Expected Result
1	CDB ByeBye	Send a CDB ByeBye message	• Disconnect TCP connection

Step	Name	Description	Expected Result
2	CDB Disconnect	TmApplicationServer Send AppStatusUpdate event. Disconnect TCP connection	

3 SERVER FEATURE TEST CASES

3.1 UPnP Operation

3.1.1 SR/CDB/UPNP/Announcement

Requirement: CONDITIONAL

Condition: Support for CDB

This tests checks the UPnP announcements, whether a CDB server endpoint is available.

Step	Name	Description	Expected Result
1	UPnP Connect	Prepare the UPnP connection by making an initialization, registering the client and waiting for the device to announce itself.	• The device does announce itself.
2	UPnP Device Description	Read the server's device description from the announced URL.	• Device description can be parsed • Support for TmApplicationServer:1 service • Support for TmClientProfile:1 service
3	UPnP Application Listing	Call UPnP ApplicationServer:1 GetApplicationList action and receive server's application list	• Device responds to GetApplicationList action
4	CDB identification	Identify the CDB endpoint, checking for CDB protocolID	• Only 1 CDB endpoint provided • Version is 1.0 or left empty • Application category 0xF0000000 or left empty

Table 1: CDB Server Endpoint UPnP Announcement – Test Steps

3.1.2 SR/CDB/UPNP/Launch

Requirement: CONDITIONAL

Condition: Support for CDB

This tests checks, whether the CDB server endpoint can be launched from the MirrorLink client and whether the CDB server endpoint returns a valid URL.

Step	Name	Description	Expected Result
1	UPnP Connect	Prepare the UPnP connection by making an initialization, registering the client and waiting for the device to announce itself.	• The device does announce itself.
2	UPnP Device Description	Read the server's device description from the announced URL.	• Device description can be parsed • Support for TmApplicationServer:1 service • Support for TmClientProfile:1 service
3	UPnP Application Listing	Call UPnP ApplicationServer:1 GetApplicationList action and receive server's application list	• Device responds to GetApplicationList action

Step	Name	Description	Expected Result
4	CDB identification	Identify the CDB enpoint, checking for CDB protocolID	• Only 1 CDB endpoint provided • Version is 1.0 or left empty • Application category 0xF0000000 or left empty
5	UPnP Launch Application	Call UPnP ApplicationServer:1 LaunchApplication action and receive the CDB server endpoint URL.	• Receive URL, without getting an error message or a timeout.
6	UPnP Terminate Application	Call UPnP ApplicationServer:1 TerminateApplication action for CDB server endpoint	• Receive TRUE response.

Table 2: CDB Server Endpoint Launch – Test Steps

3.1.3 SR/CDB/UPNP/IntentionalTerminate

Requirement: CONDITIONAL

Condition: Support for CDB

This tests checks, whether the CDB server endpoint can be terminated from the MirrorLink client.

Step	Name	Description	Expected Result
1	UPnP Connect	Prepare the UPnP connection by making an initialization, registering the client and waiting for the device to announce itself.	• The device does announce itself.
2	UPnP Device Description	Read the server's device description from the announced URL.	• Device description can be parsed • Support for TmApplicationServer:1 service • Support for TmClientProfile:1 service
3	UPnP Application Listing	Call UPnP ApplicationServer:1 GetApplicationList action and receive server's application list	• Device responds to GetApplicationList action
4	CDB identification	Identify the CDB enpoint, checking for CDB protocolID	• Only 1 CDB endpoint provided • Version is 1.0 or left empty • Application category 0xF0000000 or left empty
5	UPnP Launch	Call UPnP ApplicationServer:1 LaunchApplication action and receive the CDB server endpoint URL.	• Receive URL, without getting an error message or a timeout.
6	CDB Connect	Establish a TCP connection to the provided URL	• TCP connection established
7	CDB ByeBye	Send a CDB ByeBye message	• Server sends CDB ByeBye message
8	CDB Terminate Application	Disconnect TCP Call UPnP ApplicationServer:1 TerminateApplication action	• Receive TRUE response
9	CDB Disconnect	Disconnect TCP connection	• TCP connection disconnected

Table 3: CDB Server Endpoint Termination – Test Steps

4 MIRRORLINK CLIENT TEST CASES

4.1 UPnP Operation

4.1.1 CL/CDB/UPNP/Identification

Requirement: CONDITIONAL

Condition: Support for CDB

This tests checks, whether the CDB client endpoint identifies the CDB server endpoint.

Step	Name	Description	Expected Result
1	UPnP Connect	Announce the device to the client. Note: Send UPnP Bye-Bye message, prior UPnP connect, if UPnP Server is still operational.	• UPnP announcement broadcast is read • UPnP control point requests the server's device description from provided URL
2	UPnP Device Description	Receive request to provide the server device description. Include TmApplicationServer:1 service into the response.	• Client sends UPnP Application-Server:1 GetApplicationList action
3	CDB identification	Receive UPnP Application-Server:1 GetApplicationList action. Include a CDB server into the response.	• Client sends UPnP Application-Server:1 LaunchApplication action for CDB server endpoint within 10s

Table 4: CDB Client Endpoint UPnP Identification – Test Steps

4.1.2 CL/CDB/UPNP/Launch

Requirement: CONDITIONAL

Condition: Support for CDB

This tests checks, whether the CDB client endpoint launches the CDB server endpoint.

Step	Name	Description	Expected Result
1	UPnP Connect	Announce the device to the client. Note: Send UPnP Bye-Bye message, prior UPnP connect, if UPnP Server is still operational.	• UPnP announcement broadcast is read • UPnP control point requests the server's device description from provided URL
2	UPnP Device Description	Receive request to provide the server device description. Include TmApplicationServer:1 service into the response.	• Client sends UPnP Application-Server:1 GetApplicationList action
3	CDB identification	Receive UPnP Application-Server:1 GetApplicationList action. Include a CDB server into the response.	• Client sends UPnP Application-Server:1 LaunchApplication action for CDB server endpoint within 10s
4	CDB Launch	Receive UPnP Application-Server:1 LaunchApplication action. Provide URL	• DAP client makes a TCP connection to the DAP server

1 ### 4.1.3 CL/CDB/UPNP/IntentionalTerminate

2 This tests checks, whether the CDB client endpoint can be terminated from the MirrorLink server.

Step	Name	Description	Expected Result
1	UPnP Connect	Announce the device to the client. Note: Send UPnP Bye-Bye message, prior UPnP connect, if UPnP Server is still operational.	• UPnP announcement broadcast is read • UPnP control point requests the server's device description from provided URL
2	UPnP Device Description	Receive request to provide the server device description. Include TmApplicationServer:1 service into the response.	• Client sends UPnP Application-Server:1 GetApplicationList action
3	DAP identification	Receive UPnP Application-Server:1 GetApplicationList action. Include a CDB server into the response.	• Client sends UPnP Application-Server:1 LaunchApplication action for CDB server endpoint within 10s
4	DAP Launch	Receive UPnP Application-Server:1 LaunchApplication action. Provide URL	• CDB client endpoint makes a TCP connection to the CDB server endpoint
5	CDB Connect	Wait for TCP connection	• TCP socket connected
6	CDB ByeBye	Send CDB ByeBye message	• Client disconnects TCP socket
7	CDB Disconnect	Disconnect TCP socket	• TCP socket disconnected

3 Table 5: CDB Client Endpoint Termination – Test Steps

5 MIRRORLINK CDB SOURCE ENDPOINT

5.1.1 CDB Operations

5.1.2 SC/CDB/OPERATION/ServiceListing

Requirement: CONDITIONAL

Condition: Support for CDB AND
Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint provides a valid list of supported services

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service listing	Send CDB Services Requested message	• Respond with CDB Services Supported message in 5s • Valid service entries
3	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 6: CDB Source Endpoint Service Listing – Test Steps

5.1.3 SC/CDB/OPERATION/WrongCDBversion

Requirement: CONDITIONAL

Condition: Support for CDB AND
Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint terminates on providing a wrong CDB version)

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service listing	Send CDB Services Requested message with wrong CDB version number	• Receive Service response with response value 0x0209 in 5s • Send CDB ByeBye message • Terminates CDB
3	CDB Disconnect (if not done)	See definitions for either CDB Client or Server Endpoint disconnect	

Table 7: CDB Source Endpoint Service Listing (wrong CDB version) – Test Steps

5.1.4 SC/CDB/OPERATION/Ping

Requirement: CONDITIONAL

Condition: Support for CDB AND
Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint responds to a ping request message.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	

Step	Name	Description	Expected Result
2	CDB Ping	Send CDB Ping message	• Respond with CDB Ping Response message within 10s • Correct sequence number
3	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

1 Table 8: CDB Source Endpoint Ping – Test Steps

5.2 Service Launch

5.2.1 SC/CDB/LAUNCH/ServiceLaunch

Requirement: CONDITIONAL

Condition: Support for CDB AND
Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint can launch a service.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service listing	Send CDB Services Requested message	• Respond with CDB Services Supported message in 5s • Valid service entries
3	CDB service launch	Send CDB Service Launch message	• Receive Service response with response value 0x0001 in 5s OR • Receive service response messages with response value 0x0010 (response pending) every 5s • Receive Service response with response value 0x0001 within 2 min
4	CDB Disconnect	See definitions for either CDB Client or CDB Server Endpoint disconnect	

Table 9: CDB Source Endpoint Service Launch – Test Steps

5.2.2 SC/CDB/LAUNCH/ServiceAlreadyRunning

Requirement: CONDITIONAL

Condition: Support for CDB AND
Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint behaves correctly, launching a service twice.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service listing	Send CDB Services Requested message	• Respond with CDB Services Supported message in 5s • Valid service entries
3	CDB service launch	Send CDB Service Launch message	• Receive Service response with response value 0x0001 in 5s OR • Receive service response messages with response value 0x0010 (response pending) every 5s • Receive Service response with response value 0x0001 within 2 min

Step	Name	Description	Expected Result
4	CDB service launch	Send CDB Service Launch message (same id)	• Receive Service response with response value 0x0101 in 5s OR • Receive service response messages with response value 0x0010 (response pending) every 5s • Receive Service response with response value 0x0101 within 2 min
5	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 10: CDB Source Endpoint Service Launch (Service already running) – Test Steps

5.2.3 SC/CDB/LAUNCH/UnknownServiceId

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint behaves correctly, launching a service with unknown service Id.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service listing	Send CDB Services Requested message	• Respond with CDB Services Supported message in 5s • Valid service entries
3	CDB service launch	Send CDB Service Launch message (not listed id)	• Receive Service response with response value 0x0205 in 5s OR • Receive service response messages with response value 0x0010 (response pending) every 5s • Receive Service response with response value 0x0205 within 2 min
4	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 11: CDB Source Endpoint Service Launch (Unknown Service Id) – Test Steps

5.3 Service Termination

5.3.1 SC/CDB/TERMINATE/ServiceTermination

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint can terminate a service.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service listing	Send CDB Services Requested message	• Respond with CDB Services Supported message in 5s • Valid service entries
3	CDB service launch	Send CDB Service Launch message	• Receive Service response with response value 0x0001 in 5s OR • Receive service response messages with response value 0x0010 (response pending) every 5s • Receive Service response with response value 0x0001 within 2 min
4	CDB service termination	Send CDB Service Termination message	• Receive Service response with response value 0x0002 in 5s
5	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 12: CDB Source Endpoint Service Termination – Test Steps

5.3.2 SC/CDB/TERMINATE/ServiceNotRunning

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint behaves correctly, terminating a service not running.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service listing	Send CDB Services Requested message	• Respond with CDB Services Supported message in 5s • Valid service entries
3	CDB service termination	Send CDB Service Termination message (any listed service)	• Receive Service response with response value 0x0102 in 5s
4	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 13: CDB Source Endpoint Service Termination (Service not running) – Test Steps

5.3.3 SC/CDB/TERMINATE/UnknownServiceId

Requirement: CONDITIONAL

Condition: Support for CDB AND
Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint behaves correctly, terminating a service with unknown service Id.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service listing	Send CDB Services Requested message	• Respond with CDB Services Supported message in 5s • Valid service entries
3	CDB service termination	Send CDB Service Termination message (not listed id)	• Receive Service response with response value 0x0205 in 5s
4	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 14: CDB Source Endpoint Service Termination – Test Steps

5.4 Service Payload

5.4.1 SC/CDB/PAYLOAD/ServicePayload

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint behaves correctly, processing a service payload message.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service listing	Send CDB Services Requested message	• Respond with CDB Services Supported message in 5s • Valid service entries
3	CDB service launch	Send CDB Service Launch message	• Receive Service response with response value 0x0001 in 5s OR • Receive service response messages with response value 0x0010 (response pending) every 5s • Receive Service response with response value 0x0001 within 2 min
4	CDB service payload	Send one CDB Service Payload message with payload length 0	• Receive no error response
5	CDB service termination	Send CDB Service Termination message	• Receive Service response with response value 0x0002 in 5s
6	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 15: CDB Source Endpoint Service Payload – Test Steps

5.4.2 SC/CDB/PAYLOAD/ServiceNotRunning

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint behaves correctly, processing a service payload message with a service Id of a known but not running service.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service listing	Send CDB Services Requested message	• Respond with CDB Services Supported message in 5s • Valid service entries
3	CDB service payload	Send CDB Service Payload message (not running service)	• Receive error response with response value 0x0102 in 5s
4	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 16: CDB Source Endpoint Service Payload (Service not running) – Test Steps

5.4.3 SC/CDB/PAYLOAD/UnknownServiceId

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint behaves correctly, processing a service payload message of an unknown service.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service listing	Send CDB Services Requested message	• Respond with CDB Services Supported message in 5s • Valid service entries
3	CDB service payload	Send CDB Service Payload message (not listed id)	• Receive error response with response value 0x0205
4	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 17: CDB Source Endpoint Service Payload (Service not running) – Test Steps

5.4.4 SC/CDB/PAYLOAD/WrongAccessControl

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Source Endpoint

This test checks, whether the CDB source endpoint behaves correctly, processing a service payload message with a wrong access control.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service listing	Send CDB Services Requested message	• Respond with CDB Services Supported message in 5s • Valid service entries
3	CDB service launch	Send CDB Service Launch message	• Receive Service response with response value 0x0001 in 5s OR • Receive service response messages with response value 0x0010 (response pending) every 5s • Receive Service response with response value 0x0001 within 2 min
4	CDB service payload	Send CDB Service Payload message (with wrong access control)	• Receive error response with response value 0x0206 in 5s
5	CDB service termination	Send CDB Service Termination message	• Receive Service response with response value 0x0002 in 5s
6	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

1 Table 18: CDB Source Endpoint Service Payload (Wrong access control) – Test Steps

6 MIRRORLINK CDB SINK ENDPOINT TEST CASES

6.1 CDB Operations

6.1.1 SK/CDB/OPERATION/ServiceListing

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Sink Endpoint

This test checks, whether the CDB sink endpoint request a list of supported services

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service request	Wait for CDB Services Requested message	• Message received within 5s after launch
3	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 19: CDB Sink Endpoint Service Listing – Test Steps

6.1.2 SK/CDB/OPERATION/WrongCDBversion

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Sink Endpoint

This test checks, whether the CDB sink endpoint request a list of supported services

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service request	Wait for CDB Services Requested message	• Message received within 5s after launch
3	CDB service listing	Send CDB Services Supported message with wrong CDB version number	• Receive Service response with response value 0x0209 in 5s • Send CDB ByeBye message • Terminate CDB
4	CDB Disconnect (if not done)	See definitions for either CDB Client or Server Endpoint disconnect	

Table 20: CDB Sink Endpoint Service Listing – Test Steps

6.1.3 SK/CDB/OPERATION/Ping

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Sink Endpoint

This test checks, whether the CDB sink endpoint responds to a ping request message.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB Ping	Send CDB Ping message	• Respond with CDB Ping Response message in 10s • Correct sequence number
3	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

1 Table 21: CDB Sink Endpoint Ping – Test Steps

6.2 Service Launch

6.2.1 SK/CDB/LAUNCH/ServiceLaunch

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Sink Endpoint

This test checks, whether the CDB sink endpoint launches a service

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service request	Wait for CDB Services Requested message	• Message received within 5s after launch
3	CDB service launch	Send CDB Services Supported message	• Send CDB Start Service message
4	CDB Disconnect (if not done)	See definitions for either CDB Client or Server Endpoint disconnect	

Table 22: CDB Sink Endpoint Service Launch – Test Steps

This test case MAY be covered from any Service Binary Protocol test case, which includes the launch of any service.

6.2.2 SK/CDB/LAUNCH/ServiceLaunchDelay

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Sink Endpoint

This test checks, whether the CDB sink endpoint launches a service and can handle a delayed response.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service request	Wait for CDB Services Requested message	• Message received within 5s after launch
3	CDB service launch	Send CDB Services Supported message	• Send CDB Start Service message
4	Delay	Send 20 CDB Service Response messages with Error Code 0x0010 (Response pending), every 5s.	• CDB Sink does not terminate the service
5	Confirmation	Send CDB Service Response message with Error Code 0x0001 (Launch ok)	• CDB Sink does not terminate the service within the next 1min
6	CDB Disconnect (if not done)	See definitions for either CDB Client or Server Endpoint disconnect	

Table 23: CDB Sink Endpoint Service Launch – Delay

6.2.3 SK/CDB/LAUNCH/ServiceLaunch2MinTimeout

Requirement: CONDITIONAL

Condition: Support for CDB AND
Support for a CDB Sink Endpoint

This test checks, whether the CDB sink endpoint launches a service and can handle a 2min timeout in the response.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service request	Wait for CDB Services Requested message	• Message received within 5s after launch
3	CDB service launch	Send CDB Services Supported message	• Send CDB Start Service message
4	Delay	Send CDB Service Response messages with Error Code 0x0010 (Response pending), every 5s.	• Send CDB Stop Service message after 2min.
6	CDB Disconnect (if not done)	See definitions for either CDB Client or Server Endpoint disconnect	

Table 24: CDB Sink Endpoint Service Launch – 2min Timeout

6.2.4 SK/CDB/LAUNCH/ServiceLaunch5sTimeout

Requirement: CONDITIONAL

Condition: Support for CDB AND
Support for a CDB Sink Endpoint

This test checks, whether the CDB sink endpoint launches a service and can handle a 5s timeout in the response.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service request	Wait for CDB Services Requested message	• Message received within 5s after launch
3	CDB service launch	Send CDB Services Supported message	• Send CDB Start Service message
4	Delay	No message sent	• Send CDB Stop Service message after 5s.
6	CDB Disconnect (if not done)	See definitions for either CDB Client or Server Endpoint disconnect	

Table 25: CDB Sink Endpoint Service Launch – 5s Timeout

6.3 Service Termination

None

6.4 Service Payload

6.4.1 SK/CDB/PAYLOAD/ServicePayload

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Sink Endpoint

This test checks, whether the CDB sink endpoint behaves correctly, processing a service payload message.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service request	Wait for CDB Services Request message	• Message received within 5s after launch
3	CDB service listing	Send CDB Services Supported message	• Send CDB Service Launch message • Valid service id
4	CDB service launch	Send Service response with response value 0x0001.	
5	CDB service payload	Send one CDB Service Payload message with payload length 0	• Receive no error response
6	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 26: CDB Sink Endpoint Service Payload – Test Steps

This MAY be covered from any Service Binary Protocol test case, which results in a ServicePayload CDB message sent from CDB Source endpoint to the CDB Sink endpoint.

6.4.2 SK/CDB/PAYLOAD/ServiceNotRunning

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Sink Endpoint

This test checks, whether the CDB sink endpoint behaves correctly, processing a service payload message with a service Id of a known but not running service.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service request	Wait for CDB Services Request message	• Message received within 5s after launch
3	CDB service listing	Send CDB Services Supported message	
4	CDB service payload	Send CDB Service Payload message (not running service)	• Receive error response with response value 0x0102
5	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 27: CDB Source Endpoint Service Payload (Service not running) – Test Steps

6.4.3 SK/CDB/PAYLOAD/UnknownServiceId

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Sink Endpoint

This test checks, whether the CDB sink endpoint behaves correctly, processing a service payload message of an unknown service.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service request	Wait for CDB Services Request message	• Message received within 5s after launch
3	CDB service listing	Send CDB Services Supported message	
4	CDB service payload	Send CDB Service Payload message (not listed id)	• Receive error response with response value 0x0205
5	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 28: CDB Source Endpoint Service Payload (Service not running) – Test Steps

6.4.4 SK/CDB/PAYLOAD/WrongAccessControl

Requirement: CONDITIONAL

Condition: Support for CDB AND

Support for a CDB Sink Endpoint

This test checks, whether the CDB sink endpoint behaves correctly, processing a service payload message with a wrong access control.

Step	Name	Description	Expected Result
1	CDB Connect	See definitions for either CDB Client or Server Endpoint connect	
2	CDB service request	Wait for CDB Services Request message	• Message received within 5s after launch
3	CDB service listing	Send CDB Services Supported message	• Send CDB Service Launch message • Valid service id
4	CDB service payload	Send CDB Service Payload message (with wrong access control)	• Receive error response with response value 0x0206
5	CDB Disconnect	See definitions for either CDB Client or Server Endpoint disconnect	

Table 29: CDB Sink Endpoint Service Payload (Wrong access control) – Test Steps

This MAY be covered from any Service Binary Protocol test case, which includes in a ServicePayload CDB message with wrong server configuration sent from CDB Source endpoint to the CDB Sink endpoint.

7 REFERENCES

[1] IETF, RFC 2119, Keys words for use in RFCs to Indicate Requirement Levels, March 1997. http://www.ietf.org/rfc/rfc2119.txt

[2] Car Connectivity Consortium, “MirrorLink – Common Data Bus”, Version 1.1, CCC-TS-016