



BACnet[®] TESTING LABORATORIES

INTERIM TEST SPECIFICATION

To Be Used with Test Package 20.0
Version 5
December 7, 2022

Approved by the BTL Working Group Voting Members on December 20, 2022
Published on December 22, 2022

Foreward

The purpose of this document is to define interim tests and other test package changes made to support testing of a device that supports functionality currently not covered in the released BTL Test Package. This document shall be applied and used with BTL Test Package 20.0.

Vendors who are planning to submit a device for testing and who implement Protocol_Revision 19 and higher, or which contain functionality not covered by the Official Test Package, should use this Interim Test document.

Please note that if the device contains functionality not yet covered by the official Test Package, nor by the Interim Tests document, development of new tests may be required for your device. Please contact the BTL Manager before submitting your device for testing to ensure you are aware of all tests that will need to be applied to your device.

The changes in this document are for interim use only and may or may not be used as documented here when the final changes are applied to the next Test Package revision. Devices tested using this interim test document shall be recalled for updated testing when the next revision of test package is released that includes the topics covered here.

In the following document, language to be added to existing clauses of ANSI/ASHRAE 135.1-2019 or any part of the Test Package 20.0 are indicated through the use of *italics*, while deletions are indicated by ~~striketrough~~. Where entirely new sections are proposed to be added, plain type is used throughout.

Table of Contents

BTL CHECKLIST AND BTL TEST PLAN CHANGES	3
4.6 Data Sharing - WriteProperty - B	4
4.52 Data Sharing - Elevator View - A	5
4.53 Data Sharing - Elevator Advanced View - A	6
4.54 Data Sharing - Elevator Modify - A	7
4.55 Data Sharing - Elevator Advanced Modify - A	8
5.36 Alarm and Event Management - Elevator View Notifications - A	9
5.37 Alarm and Event Management - Elevator Advanced View Notifications - A	10
5.38 Alarm and Event Management - Elevator View and Modify - A	11
5.39 Alarm and Event Management - Elevator Advanced View and Modify - A	13
8.31 Device Management - Dynamic Device Assignment - A	15
8.32 Device Management - Dynamic Device Assignment - B	16
BTL SPECIFIED TESTS CHANGES	17
9.22.1.X3 Writing NULL to Non-commandable Properties	17

BTL Checklist and BTL Test Plan Changes

This section of the document contains interim changes to the BTL Checklist and the BTL Test Plan documents to support testing of products with functionality outside the scope of the official test plan.

This section is ordered the same as the BTL Checklist and BTL Test Plan documents to allow easy navigation of the material.

All test changes can be found in the next major section.

4.6 Data Sharing - WriteProperty - B

JIRA: BTLWG-1045

The current Test Package does not test those devices claiming Protocol_Revision 21 or later, accept writes of NULL to non-commandable properties.

Checklist Changes

None

Test Plan Changes

[In BTL Interim Tests, add into section 4.6.1, DS-WP-B Base Requirements]

BTL - 9.22.1.X3 - Writing NULL to Non-commandable Properties	
Test Conditionality	If the IUT claims Protocol_Revision 20, or prior, this test shall be skipped. If the IUT does not contain any writable non-commandable properties, this test shall be skipped.
Test Directives	Repeat the test for a selection of writable non-commandable, non-Present_Value properties which do not support the value NULL. Repeat the test for each object type with a writable non-commandable Present_Value supported by the IUT.
Testing Hints	

[In DS-WP-B, Base Requirements, modify the entry for test 9.22.2.3]

BTL - 9.22.2.3 - Writing with a Property Value Having the Wrong Datatype	
Test Conditionality	Must be executed.
Test Directives	<i>Do not use NULL as the invalid datatype when applying the test.</i>
Testing Hints	The pre-tester may want to consider running this test on a number of different properties with differing datatypes as this is a commonly failed test at the BTL.

4.52 Data Sharing - Elevator View - A

JIRA: BTLWG-798

Devices claiming support for Data Sharing - Elevator View - A must comply with the following section.

Checklist Changes

[In BTL Checklist, replace section Data Sharing - Elevator View - A]

Data Sharing - Elevator View - A		
	R	Base Requirements
	R	Supports DS-RP-A

Test Plan Changes

[In BTL Test Plan, replace section 4.52 Data Sharing - Elevator View - A]

4.52.1 Base Requirements

Base requirements must be met by any IUT claiming conformance to this BIBB.

135.1-2019 - 8.18.3 - Reading and Presenting Properties		
	Test Conditionality	Must be executed if the IUT does not support DS-EAV-A.
	Test Directives	Repeat the test for <u>each</u> of the standard object types and associated properties specified by DS-EV-A.
	Testing Hints	

4.52.2 Supports DS-RP-A

The IUT shall support DS-RP-A in order to read properties for presentation.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for DS-RP-A.
	Testing Hints	

4.53 Data Sharing - Elevator Advanced View - A

JIRA: BTLWG-798

Devices claiming support for Data Sharing - Elevator Advanced View - A must comply with the following section.

Checklist Changes

[In BTL Checklist, replace section Data Sharing - Elevator Advanced View - A]

Data Sharing - Elevator Advanced View - A		
	R	Base Requirements
	R	Supports DS-RP-A

Test Plan Changes

[In BTL Test Plan, replace section 4.53 Data Sharing - Elevator Advanced View - A]

4.53.1 Base Requirements

Base requirements must be met by any IUT claiming conformance to this BIBB.

135.1-2019 - 8.18.3 - Reading and Presenting Properties		
	Test Conditionality	Must be executed.
	Test Directives	Repeat the test for <u>all</u> standard objects and properties identified in DS-EAV-A. For properties that contain a CHOICE construct, the IUT shall be capable of reading and presenting each of the forms of the datatype as defined in the IUT's claimed protocol revision. Full accuracy presentation is not required throughout the IUT, but there should be at least one place provided by the IUT that allows the presentation of each property to be presented in such a way that the presentation requirements of DS-EAV-A are met.
	Testing Hints	

4.53.2 Supports DS-RP-A

The IUT shall support DS-RP-A in order to read properties for presentation.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for DS-RP-A.
	Testing Hints	

4.54 Data Sharing - Elevator Modify - A

JIRA: BTLWG-798

Devices claiming support for Data Sharing - Elevator Modify - A must comply with the following section.

Checklist Changes

[In BTL Checklist, replace section Data Sharing - Elevator Modify - A]

Data Sharing - Elevator Modify - A		
	R	Base Requirements
	R	Supports DS-WP-A

Test Plan Changes

[In BTL Test Plan, replace section 4.31 Data Sharing - Elevator Modify - A]

4.54.1 Base Requirements

Base requirements must be met by any IUT claiming conformance to this BIBB.

135.1-2019 - 8.22.4 - Accepting Input and Modifying Properties		
	Test Conditionality	Must be executed, unless the IUT also claims support for DS-EAM-A.
	Test Directives	Repeat the test for <u>each</u> of the required object types and associated properties defined for the claimed Protocol_Revision and described in table K-5 in the DS-EM-A BIBB definition of the BACnet standard except for those properties which are commandable. Repeat the test for a variety of values that cover the range of values required by the "Minimum Writable Value Ranges" table (table K-6) in the DS-M-A BIBB definition.
	Testing Hints	
135.1-2019 - 8.22.5 - Accepting Input and Commanding/Relinquishing Properties		
	Test Conditionality	Must be executed, unless the IUT also claims support for DS-EAM-A.
	Test Directives	Repeat the test for all commandable properties defined for the claimed Protocol_Revision. This test should be executed at priority 8 only, i.e. PR = 8.
	Testing Hints	

4.54.2 Supports DS-WP-A

The IUT shall support DS-WP-A in order to update properties modified by the user.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for DS-WP-A.
	Testing Hints	

4.55 Data Sharing - Elevator Advanced Modify - A

JIRA: BTLWG-798

Devices claiming support for Data Sharing - Elevator Advanced Modify - A must comply with the following section.

Checklist Changes

[In BTL Checklist, replace section Data Sharing - Elevator Advanced Modify - A]

Data Sharing - Elevator Advanced Modify - A		
	R	Base Requirements
	R	Supports DS-WP-A

Test Plan Changes

[In BTL Test Plan, replace section 4.55 Data Sharing - Elevator Advanced - A]

4.55.1 Base Requirements

Base requirements must be met by any IUT claiming conformance to this BIBB.

135.1-2019 - 8.22.4 - Accepting Input and Modifying Properties		
	Test Conditionality	Must be executed.
	Test Directives	Repeat the test for <u>each</u> of the required object types listed in the BIBB definition. Repeat for <u>each</u> of the required properties listed in the BIBB definition, except for those properties which are commandable. Repeat the test for a variety of values that cover the range of values required by the “Minimum Writable Value Ranges” table in the DS-M-A BIBB definition.
	Testing Hints	
135.1-2019 - 8.22.5 - Accepting Input and Commanding/Relinquishing Properties		
	Test Conditionality	Must be executed, unless the IUT also claims support for DS-EAM-A.
	Test Directives	Repeat the test for all priority values, 1 through 16.
	Testing Hints	

4.54.2 Supports DS-WP-A

The IUT shall support DS-WP-A in order to update properties modified by the user.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for DS-WP-A.
	Testing Hints	

5.36 Alarm and Event Management - Elevator View Notifications - A

JIRA: BTLWG-798

Devices claiming support for Alarm and Event Management - Elevator View Notifications - A must comply with the following section.

Checklist Changes

[In BTL Checklist, replace section Alarm and Event Management - Elevator View Notifications - A]

Alarm and Event Management - Elevator View Notifications - A		
	R	Base Requirements
	R	Supports AE-N-A

Test Plan Changes

[In BTL Test Plan, replace section 4.55 Alarm and Event Management - Elevator View Notifications - A]

5.36.1 Base Requirements

Base requirements must be met by any IUT claiming conformance to this BIBB.

135.1-2019 - 9.4.5 - ConfirmedEventNotification Simple Presentation		
	Test Conditionality	Must be executed.
	Test Directives	Repeat the test for FAULT_LISTED. Execute at least once with a Message_Text 32 or more characters in length.
	Testing Hints	
135.1-2019 - 9.5.1 - UnconfirmedEventNotification Simple Presentation		
	Test Conditionality	Must be executed.
	Test Directives	Repeat the test for FAULT_LISTED. Execute at least once with a Message_Text 32 or more characters in length.
	Testing Hints	

5.36.2 Supports AE-N-A

The IUT shall support AE-N-A in order to receive and display event notifications.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for AE-N-A.
	Testing Hints	

5.37 Alarm and Event Management - Elevator Advanced View Notifications - A

JIRA: BTLWG-798

Devices claiming support for Alarm and Event Management - Elevator Advanced View Notifications - A must comply with the following section.

Checklist Changes

[In BTL Checklist, replace section Alarm and Event Management - Elevator Advanced View Notifications - A]

Alarm and Event Management - Elevator Advanced View Notifications - A		
	R	Base Requirements
	R	Supports AE-AVN-A

Test Plan Changes

[In BTL Test Plan, replace section 4.55 Alarm and Event Management - Elevator View Notifications - A]

5.37.1 Base Requirements

Base requirements must be met by any IUT claiming conformance to this BIBB.

135.1-2019 - 9.4.6 - ConfirmedEventNotification Full Presentation		
	Test Conditionality	Must be executed.
	Test Directives	Repeat the test for FAULT_LISTED. Execute at least once with a Message_Text 256 or more characters in length.
	Testing Hints	
135.1-2019 - 9.5.2 - UnconfirmedEventNotification Full Presentation		
	Test Conditionality	Must be executed.
	Test Directives	Repeat the test for FAULT_LISTED. Execute at least once with a Message_Text 256 or more characters in length.
	Testing Hints	

5.37.2 Supports AE-AVN-A

The IUT shall support AE-AVN-A in order to receive and display event notifications.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for AE-AVN-A.
	Testing Hints	

5.38 Alarm and Event Management - Elevator View and Modify - A

JIRA: BTLWG-798

Devices claiming support for Alarm and Event Management - Elevator View and Modify - A must comply with the following section.

Checklist Changes

[In BTL Checklist, replace section Alarm and Event Management - Elevator View and Modify - A]

Alarm and Event Management - Elevator View and Modify - A		
	R	Base Requirements
	R	Supports DS-RP-A
	R	Supports DS-WP-A
	R	Supports AE-VM-A

Test Plan Changes

[In BTL Test Plan, replace section 4.55 Alarm and Event Management - Elevator View and Modify - A]

5.38.1 Base Requirements

Base requirements must be met by any IUT claiming conformance to this BIBB.

135.1-2019 - 8.18.3 - Reading and Presenting Properties		
	Test Conditionality	Must be executed if AE-EAVM-A is not supported.
	Test Directives	Repeat the test for each standard object type related to elevators capable of using the FAULT_LISTED algorithm, reading and displaying the pMonitoredList property.
	Testing Hints	
135.1-2019 - 8.22.4 - Accepting Input and Modifying Properties		
	Test Conditionality	Must be executed if AE-EAVM-A is not supported.
	Test Directives	Repeat the test for each standard object type related to elevators capable of using the FAULT_LISTED algorithm, reading and displaying the pMonitoredList property.
	Testing Hints	

5.38.2 Supports DS-RP-A

The IUT shall support DS-RP-A in order to read properties for presentation.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for DS-RP-A.
	Testing Hints	

5.38.3 Supports DS-WP-A

The IUT shall support DS-WP-A in order to update properties modified by the user.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for DS-WP-A.
	Testing Hints	

5.38.4 Supports AE-VM-A

The IUT shall support AE-VM-A in order to facilitate configuration of alarm parameters by the user.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for AE-VM-A.
	Testing Hints	

5.39 Alarm and Event Management - Elevator Advanced View and Modify - A

JIRA: BTLWG-798

Devices claiming support for Alarm and Event Management - Elevator Advanced View and Modify - A must comply with the following section.

Checklist Changes

[In BTL Checklist, replace section Alarm and Event Management - Elevator Advanced View and Modify - A]

Alarm and Event Management - Elevator Advanced View and Modify - A		
	R	Base Requirements
	R	Supports DS-RP-A
	R	Supports DS-WP-A
	R	Supports DM-OCD-A
	R	Supports AE-AVM-A

Test Plan Changes

[In BTL Test Plan, replace section 4.55 Alarm and Event Management - Elevator View and Modify - A]

5.39.1 Base Requirements

Base requirements must be met by any IUT claiming conformance to this BIBB.

135.1-2019 - 8.18.3 - Reading and Presenting Properties		
	Test Conditionality	Must be executed.
	Test Directives	Repeat the test for each standard object type related to elevators capable of using the FAULT_LISTED algorithm, reading and displaying the pMonitoredList property.
	Testing Hints	
135.1-2019 - 8.22.4 - Accepting Input and Modifying Properties		
	Test Conditionality	Must be executed.
	Test Directives	Repeat the test for each standard object type related to elevators capable of using the FAULT_LISTED algorithm, reading and displaying the pMonitoredList property.
	Testing Hints	

5.39.2 Supports DS-RP-A

The IUT shall support DS-RP-A in order to read properties for presentation.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for DS-RP-A.
	Testing Hints	

5.39.3 Supports DS-WP-A

The IUT shall support DS-WP-A in order to update properties modified by the user.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for DS-WP-A.
	Testing Hints	

5.39.4 Supports DM-OCD-A

The IUT shall support DM-OCD-A in order to facilitate creation and deletion of elevator objects.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for DM-OCD-A.
	Testing Hints	

5.39.5 Supports AE-AVM-A

The IUT shall support AE-VM-A in order to facilitate configuration of alarm parameters by the user.

Verify Checklist		
	Test Conditionality	Must be executed.
	Test Directives	Verify that the IUT claims support for AE-AVM-A.
	Testing Hints	

8.31 Device Management - Dynamic Device Assignment - A

JIRA: BTLWG-798

The current Test Package does not include testing for DM-DDA-A.

For BTL Checklist, BTL Test Plan, and BTL Specified Test changes for the testing DM-DDA-A, see Add-20.0-bz.

8.32 Device Management - Dynamic Device Assignment - B

JIRA: BTLWG-798

The current Test Package does not include testing for DM-DDA-B.

For BTL Checklist, BTL Test Plan, and BTL Specified Test changes for the testing DM-DDA-B, see Add-20.0-bz.

BTL Specified Tests Changes

This section contains all of the new and changed tests required by the interim test BTL Checklist and BTL Test Plan changes.

9.22.1.X3 Writing NULL to Non-commandable Properties

JIRA: BTLWG-1045

Purpose: This test case verifies that the IUT returns a Result(+) when an attempt is made to relinquish a non-commandable property.

Test Concept: Write NULL to a writable non-commandable property, P1 in object O1, and verify the IUT returns a Result(+) and does not modify the property.

Test Configuration: P1 shall be a property for which NULL is not an accepted value.

Test Steps:

1. READ X = (O1), P1
2. TRANSMIT WriteProperty-Request,
 - 'Object Identifier' = O1,
 - 'Property Identifier' = P1,
 - 'Property Value' = NULL
3. RECEIVE BACnet-SimpleACK-PDU
4. VERIFY (O1), P1 = X