

Clarification Request

References: BTL Test Plan 5.2.10, BTL Specified Tests 8.4.4

Date of BTL-WG Response: May 7, 2020

Background / Proposed Solution:

This CR may need to go to the SSPC as well.

Both the standard and the BTL-test use the term “change / changeable” to increment the database revision property.

12.11.35 Database_Revision

This property, of type Unsigned, is a logical revision number for the device's database. It is incremented when an object is created, an object is deleted, an object's name is **changed**, an object's Object_Identifier property is **changed**, or a restore is performed with the exception that the creation and deletion of temporary configuration files during a backup or restore procedure shall not affect this property.

BTL - 7.3.2.10.X5 - Successful increment of the Database_Revision property after changing the Object_Name property of an object		
	Test Method	Manual
	Configuration	As per <i>BTL Specified Tests</i> .
	Test Conditionality	If the device implements protocol revision 2 or higher, this test must be executed. If the IUT does not support a changeable Object_Name property in any object, this test may be skipped.
	Test Directives	
	Testing Hints	
	Notes & Results	
BTL - 7.3.2.10.X6 - Successful increment of the Database_Revision property after changing the Object_Identifier property of an object		
	Test Method	Manual
	Configuration	As per <i>BTL Specified Tests</i> .

Test Conditionality	If the device implements protocol revision 2 or higher, this test must be executed. If the IUT does not support a changeable Object_Identifier property in any object, this test may be skipped.
Test Directives	
Testing Hints	
Notes & Results	

Problems:

Does change/changeable include proprietary techniques to modify (increment) this property? For example if the Device object's instance number is changed by a configuration file, a jumper, a web-access or similar, does this mean the database revision property shall be incremented?

And if so, the test conditionally is meaningless because all BACnet devices must be settable in the range from 0-4194302 for the Device object instance number. In this case, every BACnet devices needs to be configured somehow and so Database Revision=1 will likely not appear except when talking about factory defaults.

Proposal:

Clarify the wording "change / changeable". My understanding would be "changing by using BACnet services", but I am uncertain if I am right.

Send this to the SSPC as well.

Response:

Test conditionality shall be removed. The Device object-name and Device object-identifier are required to be changeable to achieve the uniqueness internetwork-wide as specified by the standard.

Proposed New Response:

In general, changeability is normally referred to as configurability within the BACnet standard. There are 3 levels of changeability:

- 1) commandable
- 2) writable
- 3) changeable or configurable

As noted in the previous response to this question, the standard implies, through the requirement for uniqueness, that a Device object's Object_Name and Object_Identifier properties are changeable.

But there is no point in updating the Database_Revision when the device instance is changed as it is the relationship between the Database_Revision and the device instance which makes the property useful. For this reason, there is no benefit in using the device object's Object_Identifier property for this test.

In contrast, the Device objects' Object_Name does have the same relationship to the Database_Revision property value. Therefore, there is benefit in testing that changes to the Device object's Object_Name result in changes to Database_Revision.

The result of the requirement for changeability of the Device object' Object_Name property is that 7.3.2.10.X5 would always have to be executed, but there are some extreme, yet acceptable cases, where the steps required to change a Device object's Object_Name do not maintain continuity of the device's identity and thus incrementing the Database_Revision property is not realistic.

Therefore, in the context of what we expect from BACnet devices, if the manner in which the Device object's Object_Name is changed is akin to a full replacement of the device, there should be no expectation that the Database_Revision property is updated.

For the purpose of testing, a full replacement of the device shall be assumed to have occurred if in the process of changing the device's name, all configuration values are always replaced (even though they might be replaced with the same values) and all data values are reset to default or initial values. In this case there should be no expectation that the Database_Revision property would be incremented.

In contrast, if the act of changing the Device object's Object_Name results in any of the previous data remaining in the device, such as would occur if the just the Object_Name property were written, or the complete image of the device were read from the device, the name changed, and the complete image written back down, then there is a reasonable expectation that the Database_Revision is updated.

So, the conditionality of the tests will be changed to:

7.3.2.10.X5

If the device implements Protocol_Revision 2 or higher, this test must be executed.

Where the only changeable Object_Name property in the device is the Device object's name, and the only method for changing the name is to replace the complete configuration and wipe all runtime data in the device, this test shall be skipped.

7.3.2.10.X6

If the device implements Protocol_Revision 2 or higher, this test must be executed.

Where the only changeable Object_Identifier property in the device is the Device object's identifier, this test shall be skipped.