

Clarification Request

References: BACnet 135-2012 clause 18.3, 135.1-2013 - 9.16.2.3

Date of BTL-WG Response: __05-Feb-2015__

☒ All actions necessitated have been completed

Background:

From 135-2012

15.3.1.3 Result(-)

The 'Result(-)' parameter shall indicate that the service request failed. The reason for failure is specified by the 'Error Type' parameter.

15.3.1.3.1 Error Type

This parameter consists of two component parameters: (1) an 'Error Class' and (2) an 'Error Code'. See Clause 18. The 'Error Class' and 'Error Code' to be returned for specific situations are as follows:

<u>Situation</u>	<u>Error Class</u>	<u>Error Code</u>
The device cannot allocate the space needed for the new object.	RESOURCES	NO_SPACE_FOR_OBJECT
The device supports the object type and may have sufficient space, but does not support the creation of the object for some other reason.	OBJECT	DYNAMIC_CREATION_NOT_SUPPORTED
The device does not support the specified object type.	OBJECT	UNSUPPORTED_OBJECT_TYPE
The object being created already exists.	OBJECT	OBJECT_IDENTIFIER_ALREADY_EXISTS
A datatype of a property value specified in the List of Initial Values does not match the datatype of the property specified by the Property_Identifier.	PROPERTY	INVALID_DATATYPE
A value used in the List of Initial Values is outside the range of values defined for the property specified by the Property_Identifier.	PROPERTY	VALUE_OUT_OF_RANGE
A Property_Identifier has been specified in the List of Initial Values that is unknown for objects of the type being created.	PROPERTY	UNKNOWN_PROPERTY
A character string value was encountered in the List of Initial Values that is not a supported character set.	PROPERTY	CHARACTER_SET_NOT_SUPPORTED
A property specified by the Property_Identifier in the List of Initial Values does not support initialization during the CreateObject service.	PROPERTY	WRITE_ACCESS_DENIED
The data being written has a datatype not supported by the property.	PROPERTY	DATATYPE_NOT_SUPPORTED

15.3.1.3.2 First Failed Element Number

This parameter, of type Unsigned, shall convey the numerical position, starting at 1, of the offending 'Initial Value' in the 'List of Initial Values' parameter received in the request. If the request is considered invalid for reasons other than the 'List of Initial Values' parameter, the 'First Failed Element Number' shall be equal to zero.

18.2 Error Class - OBJECT

This Error Class pertains to problems related to identifying, accessing, and manipulating BACnet objects, whether BACnet-defined or not. Since these errors generally apply to individual object characteristics, they do not necessarily signal that an entire service request has failed.

BUSY - A service request has been temporarily declined because the addressed object is involved in a process that precludes execution of the service.

DYNAMIC_CREATION_NOT_SUPPORTED - An attempt has been made to create an object using an object type that cannot be created dynamically.

FILE_FULL - This applies to the case when a File Object becomes filled to a designed limit, as opposed to a No Space Available / Out of Memory situation.

LOG_BUFFER_FULL - The attempted operation would result in the addition of a log record to an object whose log buffer is full.

NO_ALARM_CONFIGURED - The BACnet object referenced by the service does not support, or is not configured for, event generation.

NO_OBJECTS_OF_SPECIFIED_TYPE - A search of the addressed BACnet device's object database has failed to find any objects of the object type specified in the service request.

OBJECT_DELETION_NOT_PERMITTED - An attempt has been made to delete an object that cannot be deleted or is currently protected from deletion.

OBJECT_IDENTIFIER_ALREADY_EXISTS - An attempt has been made to create a new object using an object identifier already in use.

OPTIONAL_FUNCTIONALITY_NOT_SUPPORTED - The requested action cannot be executed because the specified object does not support the optional functionality required.

READ_ACCESS_DENIED - An attempt has been made to read the properties of an object defined as inaccessible through the BACnet protocol read services.

UNKNOWN_OBJECT - An Object Identifier has been specified for an object that does not exist in the object database of the addressed BACnet device.

UNSUPPORTED_OBJECT_TYPE - An object type has been specified in a service parameter that is unknown or unsupported in the addressed BACnet device.

OTHER - This error code is returned for a reason other than any of those previously enumerated for this Error Class.

From 135.1-2013

9.16.2.3 Attempting to Create an Object with an Object Identifier That is Not Creatable by Specifying the Object Identifier

Purpose: To verify the correct execution of the CreateObject service request when the 'Object Specifier' parameter conveys an object identifier for an object type that is not dynamically creatable in the IUT.

Test Steps:

1. TRANSMIT CreateObject-Request,
 'Object Identifier' = (any object identifier having a supported object type for which
 dynamic creation is not supported)
2. RECEIVE CreateObject-Error,
 Error Class = OBJECT,
 Error Code = DYNAMIC_CREATION_NOT_SUPPORTED
 'First Failed Element Number' = 0
4. VERIFY (the IUT's Device object),
 Object_List = (any object list that does not contain the object specified in
 step 1)

Notes to tester: If the IUT limits the instances that can be created, this shall be taken into account when selecting an object identifier in step 1.

Question:

The way that this was taken into account when selecting an object identifier in step 1, was that an instance that cannot be created because of that limit, was intentionally what was selected.

Is it permissible for a device, if the IUT limits the instances that can be created, to return:

```
CreateObject-Error,
    Error Class =          OBJECT,
    Error Code =          VALUE_OUT_OF_RANGE
```

in step 2?

Response:

This test is not designed to test object instance limits. It is for testing an object type that is not dynamically creatable in the IUT. The Notes to Tester will be changed to clarify this.

The BTL-WG will review adding a new test if the standard specifies the behavior when there is a limit. There is currently no such test.