

Clarification Request

References: 135.1-2009g – 13.X1 Automatic Network Mapping, BTL Implementation Guidelines v34

Date of BTL-WG Response: February 7, 2013

Background:

The test 13.X1 from 135.1-2009g Automatic Network Mapping [1] imposes a requirement that 'who-is' messages used to implement the BIBB include device instance number range. However, I have been unable to find a rational for this requirement in BACnet standard (135-2010).

It seems that a workstation issuing directed broadcasts of who-is messages without a device instance range still meets the recommendation in the BTL Implementation Guidelines v34 item 6.5 [2], to avoid large numbers of I-am responses. So, why is the device instance range introduced as a requirement for Automatic Network Mapping?

[1] 135.1-2009g 13.X1 Automatic Network Mapping

Purpose: To verify that an IUT can find all devices connected to the BACnet internetwork and present the list of devices to the user.

Test Configuration: The IUT shall be connected to a network consisting of devices that are distributed on multiple networks. The TD shall monitor the IUT's generation of Who-Is service requests and shall verify that the requests cover the complete range of BACnet device instances and that Who-Is requests are used that contain device instance ranges.

Test Steps:

1. IF (the IUT caches device information) THEN
MAKE (the IUT's cache clear so that is unaware of the existence of any other devices)
2. MAKE (the IUT initiate the network mapping function while monitoring the network for Who-Is requests initiated by the IUT)
3. CHECK (that the IUT identifies all of the devices on the network to the user)

Passing Result: The IUT sends global broadcast Who-Is requests or directed broadcasts to each network, the complete range of device instances is covered by the Who-Is requests, and the IUT does not solely rely on Who-Is requests with no device instance ranges.

Passing Result: The IUT presents a list of all devices on the network to the user. The list shall not indicate devices as present that do not exist on the internetwork. The IUT is not required to include itself in the list.

[2] 6.5 Restrict the Who-Is device instance range

Do not issue globally broadcast Who-Is messages (i.e., without 'Device Instance Range Low/High Limit' parameters), except as the first step of mapping a system such as by a workstation. In large systems these cause massive numbers of I-Am broadcasts, causing I-Am responses and other messages to be lost. It is better to issue a single Who-Is request for each specific peer device that is to be located.

Question:

Is it acceptable for a workstation to use who-is messages without device instance range when those messages are conveyed by directed broadcast to individual networks, as this would also limit the number of I-Am responses?

Is it appropriate to amend the test 13.X1 in 135.1-2009g to allow for this case?

Response:

No. No. Unrestricted directed broadcasts will swamp the intervening router on typical sized networks. So no change to the test 13.X1 in 135.1-2009g is called for.