

Clarification Request

References: BTL Specified Test 13.2.1

Date of BTL-WG Response: April 18, 2013

Background:

BTL Specified Test 13.2.1 is a test applied only to devices claiming Protocol_Revision < 7.

It specifies behaviour where the standard almost immediately after 2004 did an about-face and specified differently, with a separate UTC_Time_Synchronization_Recipients property.

The probably errata in 135-2004 where “not automatically send a TimeSynchronization” is stated where UTCTimeSynchronization is probably intended, in

When the Time_Synchronization_Recipients list is of length zero, a device may not automatically send a TimeSynchronization request. When Time_Synchronization_Recipients list is of length one or more, a device may automatically send a UTCTimeSynchronization request but only to the devices or addresses contained in the Time_Synchronization_Recipients list.

and the verb being “may” rather than “shall” where UTCTimeSynchronization request is stated, gives little reason to think requiring UTCTimeSynchronization-Requests to appear during 13.2.1 derives from requirements in the standard.

BTL Specified Test 13.2.1 TimeSynchronization Recipients Test, Protocol_Revision < 7

Purpose: To verify that an IUT implemented to a Protocol_Revision less than 7 can perform the function of a time master.

Dependencies: None.

BACnet Reference Clause: 12.11.31, 16.7

Test Concept: The Time Master functionality requires that the device supports the Device object's Time_Synchronization_Recipients property. For these tests to be fully completed, the IUT's Time_Synchronization_Recipients property must list at least one valid recipient. Note that for Protocol_Revision \square 7, the IUT could send both TimeSynchronization and UTCTimeSynchronization requests to all recipients, or the IUT could determine which service(s) is supported by the recipient and transmit accordingly. The tester should simply ignore any additional TimeSynchronization-Request to TD2, and ignore any additional UTCTimeSynchronization-Request to TD1. The order in which the IUT transmits the requests is not important, as long as at least one of each type of transmission is observed, and that at least one transmission of TimeSynchronization-Request to TD1 and at least one transmission to UTCTimeSynchronization-Request to TD2 is observed.

Test Configuration: The tester should configure two TD devices for use with this test. TD1 shall support only Time Synchronization while TD2 shall support only UTC_TimeSynchronization. If the IUT claims a Protocol_Revision of 7 or higher, this test shall not be performed.

Test Steps:

1. WRITE Time_Synchronization_Recipients = ([TD1, TD2])
2. MAKE (the IUT issue time-synchronization request to all recipients)
3. RECEIVE UTCTimeSynchronization-Request
DESTINATION = TD2,

4. SOURCE = IUT,
 'Time' = (the IUT's current UTC date and time)
RECEIVE TimeSynchronization-Request,
 DESTINATION = TD1,
SOURCE = IUT,
 'Time' = (the IUT's current local date and time)
5. WRITE Time_Synchronization_Recipients = BROADCAST
6. MAKE (the IUT issue time request to all recipients)
7. RECEIVE UTCTimeSynchronization-Request,
 DESTINATION = BROADCAST,
 SOURCE = IUT,
 'Time' = (the IUT's current UTC date and time)
8. RECEIVE TimeSynchronization-Request,
 DESTINATION = BROADCAST,
SOURCE = IUT,
 'Time' = (the IUT's current local date and time)

Notes to tester: The order in which the IUT transmits the requests is not important. Ignore an additional TimeSynchronization-Request to TD2, if one is observed. Ignore an additional UTCTimeSynchronization-Request to TD1, if one is observed. Test steps 5, 6, 7, and 8 should be performed three times, using local broadcast, remote broadcast and global broadcast forms of the recipient in step 5.

Question:

Can devices claiming Protocol_Revision < 7 that skip what is specified in step 3 and step 7, and send just TimeSynchronization service requests to each recipient in the Time_Synchronization_Recipient property be considered a correct implementation?
Is the UTCTimeSynchronization service initiation optional, and not mandatory?

Response:

"No and No, it is mandatory. The BTL requires initiation of both UTCTimeSynchronization-Request and TimeSynchronization-Request in all products which provide time synchronization services. The Test Plan has been requiring this since at Test Plan 5.0 in July 2009. Devices which need their time synchronized, and which only execute the UTCTimeSynchronization service, need to receive a UTCTimeSynchronization-Request."