

Clarification Request

References: 9.30.1.1 TimeSynchronization and 9.31.1.1 UTCTimeSynchronization Service Execution Tests

Date of BTL-WG Response: __24-May-2011__

Background / Proposed Solution:

The Test Plan for TimeSynchronization and UTCTimeSynchronization involves four separate tests, but expresses the test steps just once. The clarity can be much improved by separating the TimeSynchronization and UTCTimeSynchronization tests instead of attempting reuse. In the below **highlighted** sections, italics/strikethrough indicate the suggested corrections.

Device Management - Time Synchronization - B

Base Requirements

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

135.1-2007 BTL - 9.30.1.1 - TimeSynchronization Local Broadcast		
	Test Method	Manual
	Configuration	As per BTL Specified Tests.ASHRAE 135.1-2007.
	Test Conditionality	Must be executed.
	Test Directives	
	Testing Hints	
	Notes & Results	
135.1-2007 BTL - 9.30.1.2 - TimeSynchronization Directed to the IUT		
	Test Method	Manual
	Configuration	As per BTL Specified Tests.ASHRAE 135.1-2007.
	Test Conditionality	Must be executed.
	Test Directives	
	Testing Hints	
	Notes & Results	

9.30.1.1 TimeSynchronization Local Broadcast

Purpose: To verify that the IUT resets its local time and date in response to a local broadcast TimeSynchronization service request.

Test Steps:

1. TRANSMIT ReadProperty-Request,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Date
2. RECEIVE ReadProperty-ACK,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Date,
 'Property Value' = (any valid date referred to as "InitialDate" below)
3. TRANSMIT ReadProperty-Request,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Time
4. RECEIVE ReadProperty-ACK,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Time,
 'Property Value' = (any valid time referred to as "InitialTime" below)
5. TRANSMIT ReadProperty-Request,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = UTC_Offset
6. RECEIVE ReadProperty-ACK,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = UTC_Offset,
 'Property Value' = (any valid offset referred to as "InitialUTC_Offset" below)

7. TRANSMIT ReadProperty-Request,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Daylight_Savings_Status
8. RECEIVE ReadProperty-ACK,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Daylight_Savings_Status,
 'Property Value' = (any valid status referred to as
 "InitialDaylight_Savings_Status" below)
95. TRANSMIT
 DA = LOCAL BROADCAST,
 SA = TD,
 BACnet-Unconfirmed-Request-PDU,
 'Service Choice' = TimeSynchronization-Request,
 date = (any date other than InitialDate),
 time = (any time that does not correspond to InitialTime)
106. TRANSMIT ReadProperty-Request,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Date
117. RECEIVE ReadProperty-ACK,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Date,
 'Property Value' = (the date specified in step 95)
128. TRANSMIT ReadProperty-Request,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Time
139. RECEIVE ReadProperty-ACK,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Time,
 'Property Value' = (the time specified in step 95)

Notes to Tester: The time value returned by the IUT in step 139 shall agree with the time specified in step 95 within the resolution for time specified in the EPICS. If the time returned by the IUT indicates that a small amount of time has passed (< 1 second) since the TimeSynchronization request was received, *then* the result shall be considered *to be* a pass. If the *time-date* indicates that the day of week is unspecified but all other fields are correct the result shall be considered *to be* a pass.

9.30.1.2 **TimeSynchronization** Directed to the IUT

Purpose: To verify that the IUT resets its local time and date in response to a TimeSynchronization service request directed to the IUT's MAC address.

Test Steps: This test is identical to 9.30.1.1 except that the TimeSynchronization-Request in step 95 shall be transmitted using the IUT's MAC address as the destination.

Notes to Tester: The passing results are identical to 9.30.1.1.

Device Management - UTC Time Synchronization - B

Base Requirements

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

135.1-2007 BTL - 9.31.1.1 - UTCTimeSynchronization Local Broadcast		
	Test Method	Manual
	Configuration	As per BTL Specified Tests. ASHRAE 135.1-2007.
	Test Conditionality	Must be executed.
	Test Directives	
	Testing Hints	
	Notes & Results	
135.1-2007 BTL - 9.31.1.2 - UTCTimeSynchronization Directed to the IUT		
	Test Method	Manual
	Configuration	As per BTL Specified Tests. ASHRAE 135.1-2007.
	Test Conditionality	Must be executed.
	Test Directives	
	Testing Hints	
	Notes & Results	

9.31.1.1 **UTCTimeSynchronization** Local Broadcast

Purpose: To verify that the IUT resets its local time and date in response to a local broadcast UTCTimeSynchronization service request.

Test Steps: The test steps are identical to the steps in 9.30.1.1 except that in step 9 the UTCTimeSynchronization request is used and the date and time conveyed represent UTC.

Test Steps:

1. TRANSMIT ReadProperty-Request,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Date
2. RECEIVE ReadProperty-ACK,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Date,
 'Property Value' = (any valid date referred to as "InitialDate" below)
3. TRANSMIT ReadProperty-Request,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Time
4. RECEIVE ReadProperty-ACK,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Time,
 'Property Value' = (any valid time referred to as "InitialTime" below)
5. TRANSMIT ReadProperty-Request,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = UTC_Offset
6. RECEIVE ReadProperty-ACK,

- 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = UTC_Offset,
 'Property Value' = (any valid offset referred to as "Initial_UTC_Offset")
7. TRANSMIT
 DA = LOCAL BROADCAST,
 SA = TD,
 BACnet-Unconfirmed-Request-PDU,
 'Service Choice' = UTCTimeSynchronization-Request,
 date = (any date other than InitialDate),
 time = (any time that does not correspond to InitialTime)
 8. TRANSMIT ReadProperty-Request,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Daylight_Savings_Status
 9. RECEIVE ReadProperty-ACK,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Daylight_Savings_Status,
 'Property Value' = (any valid status)
 10. TRANSMIT ReadProperty-Request,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Date
 11. RECEIVE ReadProperty-ACK,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Date,
 'Property Value' = (the date specified in step 9, corrected for Initial_UTC_Offset and Daylight_Savings_Status)
 12. TRANSMIT ReadProperty-Request,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Time
 13. RECEIVE ReadProperty-ACK,
 'Object Identifier' = (the IUT's Device object),
 'Property Identifier' = Local_Time,
 'Property Value' = (the time specified in step 9, corrected for Initial_UTC_Offset and Daylight_Savings_Status)

Notes to Tester: Values tested in step 7 should include at least one which, in combination with the Initial_UTC_Offset, shall cause the result to cross midnight so that the resulting date is different from the date specified in step 7.

Passing Results: The time value returned by the IUT in steps 11 and 13 shall agree, within the resolution for time specified in the EPICS, with the date and time specified in step 7, corrected for both Initial_UTC_Offset and Daylight_Savings_Status. It is the Daylight_Savings_Status from step 9 which should be used in the determination in steps 11 and 13. The IUT may update the Daylight_Savings_Status during the execution of the UTCTimeSynchronization request. If the time returned by the IUT indicates that a small amount of time has passed (< 1 second) since the UTCTimeSynchronization request was received, then the result shall be considered a pass. If the date indicates that the day of week is unspecified but all other fields are correct the result shall be considered a pass. ~~The passing results are identical to 9.30.1.1 except that the date in step 9 shall be corrected for InitialUTC_Offset, and the time in step 13 shall be corrected for both Initial_UTC_Offset and Daylight_Savings_Status (as defined in BACnet 16.7.8.2).~~

[it had made reference to BACnet 16.7.2, but the UTCTimeSynchronization Service Procedure is in section 16.8.2, but we're striking the whole sentence anyway]

9.31.1.2 **UTCTimeSynchronization** Directed to the IUT

Test Steps: This test is identical to 9.3031.1.1 except that in step 9 the UTCTimeSynchronization request is used and the date and time conveyed represent UTC and the UTCTimeSynchronization-Request in step 9 shall be transmitted using the IUT's MAC address as the destination.

Notes to Tester: The passing results are identical to 9.3031.1.1.

Question:

Does this revision and division into two tests implement the intent of the BTL Test plan?

Response:

Yes, but relocating the midnight aspect from the Notes to Tester: to the Test Directive of 9.31.1.1.