

Clarification Request

References: 135.1-2025 test 7.3.1.11.3

Date of BTL-WG Response: July 9, 2026

Background: 135-2024 clause 13.3

7.3.1.11.3 Acked_Transitions Test for Normal-To-Normal Transitions

Purpose: To verify that the Acked_Transitions property tracks whether an acknowledgment has been received for a previously issued normal event notification. It also verifies the interrelationship between Status_Flags and Event_State.

Test Concept: The IUT is configured such that the Event_Enable property indicates that normal event transitions are to trigger an event notification. The normal event transition is triggered and the Acked_Transitions property is monitored to verify that the appropriate bit is cleared when a notification message is transmitted and reset when an acknowledgment is received.

Configuration Requirements: The Event_Enable and Acked_Transitions properties shall be configured with a value of (?, ?,

TRUE). The referenced event-triggering property shall be set to a value that results in a NORMAL condition. The value of

the Transitions parameter for all recipients shall be (?, ?, TRUE).

Notes to Tester: The UnconfirmedEventNotification service may be substituted for the ConfirmedEventNotification service, in which case the TD shall skip sending the BACnet-SimpleACK-PDU messages after receiving the notification.

Notes to Tester: For life safety objects that latch pMonitoredValue, the LifeSafetyOperation Service will be required to reset pMonitoredValue.

Test Steps:

1. VERIFY pCurrentState = NORMAL
2. VERIFY Acked_Transitions = (?, ?, TRUE)
3. IF (Protocol_Revision is present AND Protocol_Revision >= 13) THEN
VERIFY Status_Flags = (FALSE, FALSE, ?, ?)
4. IF (pMonitoredValue is writable) THEN
5. WRITE pMonitoredValue = (a value that will result in a TO_NORMAL transition)
- ELSE
6. MAKE (pMonitoredValue a value that will result in a TO_NORMAL transition)
7. WAIT (pTimeDelayNormal)
8. BEFORE Notification Fail Time
9. RECEIVE ConfirmedEventNotification-Request,
'Process Identifier' = (PI2: any valid process ID),
'Initiating Device Identifier' = IUT,
'Event Object Identifier' = (the event-generating object configured for this test),
'Time Stamp' = (Tnormal: any valid time stamp),
'Notification Class' = (the class corresponding to the object being tested),
'Priority' = (Pnormal: the value configured to correspond to a TO-NORMAL transition),
'Event Type' = (any valid event type),
'Message Text' = (optional, any valid message text),
'Notify Type' = (the notify type configured for this event),
'AckRequired' = TRUE,

'From State' = NORMAL,
 'To State' = NORMAL,
 'Event Values' = (values appropriate to the event type)
 10. TRANSMIT BACnet-SimpleACK-PDU
 11. VERIFY pCurrentState = NORMAL
 12. VERIFY Acked_Transitions = (?, ?, FALSE)
 13. IF (Protocol_Revision is present AND Protocol_Revision >= 13) THEN
 14. VERIFY Status_Flags = (FALSE, FALSE, ?,?)
 15. TRANSMIT AcknowledgeAlarm-Request,
 'Acknowledging Process Identifier' = (PI2),
 'Event Object Identifier' = (the event-generating object configured for this test),
 'Event State Acknowledged' = NORMAL,
 'Time Stamp' = (Tnormal),
 'Acknowledgement Source' = (a character string),
 'Time of Acknowledgment' = (the TD's current time)
 16. RECEIVE BACnet-SimpleACK-PDU
 17. IF (Protocol_Revision is present AND Protocol_Revision >= 1) THEN
 18. BEFORE Notification Fail Time
 19. RECEIVE ConfirmedEventNotification-Request,
 'Process Identifier' = (PI2),
 'Initiating Device Identifier' = IUT,
 'Event Object Identifier' = (the event-generating object configured for this test),
 'Time Stamp' = (the IUT's current time or sequence number),
 'Notification Class' = (the class corresponding to the object being tested),
 'Priority' = (Pnormal),
 'Event Type' = (any valid event type),
 'Message Text' = (optional, any valid message text),
 'Notify Type' = ACK_NOTIFICATION,
 'To State' = NORMAL
 ELSE
 20. BEFORE Notification Fail Time
 21. RECEIVE ConfirmedEventNotification-Request,
 'Process Identifier' = (PI2),
 'Initiating Device Identifier' = IUT,
 'Event Object Identifier' = (the event-generating object configured for this test),
 'Time Stamp' = (the IUT's current time or sequence number),
 'Notification Class' = (the class corresponding to the object being tested),
 'Priority' = (Pnormal),
 'Event Type' = (any valid event type),
 'Message Text' = (optional, any valid message text),
 'Notify Type' = ACK_NOTIFICATION
 22. TRANSMIT BACnet-SimpleACK-PDU
 23. VERIFY Acked_Transitions = (?, ?, TRUE)

Problems:

In steps 5 and 6 the test tries to trigger a NORMAL to NORMAL transition by modifying pMonitoeredValue. There are a couple of event algorithms, that support normal to normal transitions and therefore can be tested with this test:

- CHANGE_OF_VALUE
- BUFFER_READY
- CHANGE_OF_LIFE_SAFETY
- EXTENDED

- ACCESS_EVENT
- CHANGE_OF_DISCRETE_VALUE

But not for all of these algorithms the transition can be triggered with a change of pMonitored value. For ChangeOfLifeSafety it would be pMode, for ACCESS EVENT it would be pAccessEventTime, for EXTENDED I don't know what; it does not even have a pMonitoredValue parameter.

The second notes for tester seems like a copy'n paste error as the latching for LifeSafety does not have any influence on this test.

Question:

Should the test be skipped until corrected for EventAlgorithms, that do not trigger NormalToNormal transition with changes to pMonitoredValue?

Response:

No, the test should not be skipped.

The test should be run for objects that support NORMAL-to-NORMAL transitions substituting configuration of pMonitoredValue in steps in 5 and 6 with configuration of the appropriate parameter to trigger a NORMAL-to-NORMAL transition based on the algorithm. For instance, when testing CHANGE_OF_LIFE_SAFETY, use pMode instead of pMonitoredValue.

The test package will be updated in the future to address these inconsistencies.