

Clarification Request

References: BTL Test Plan 12.0.final, 135.1-2013 - 9.1.1.1

Date of BTL-WG Response: January 7, 2016

☒ All actions necessitated have been completed

Background:

BTL - 9.1.1.1 and others (9.1.1.2, 9.1.1.3, 9.1.1.4, 9.1.1.5, 9.1.1.6, 9.1.2.1, 9.1.2.3, 9.1.2.5, 9.1.2.6)

9.1.1.1 Successful Alarm Acknowledgment of Confirmed Event Notifications Using the Time Form of the 'Time of Acknowledgment' Parameter

Reason For Change: Made changes to allow cases where only one Recipient_List entry is supported.

Purpose: To verify the successful acknowledgment of an alarm signaled by a ConfirmedEventNotification, including notification of other workstations and updating of the Acked_Transitions status. The Time form of the 'Time of Acknowledgment' parameter is used.

Test Concept: An alarm is triggered that causes the IUT to notify the TD and ~~at least one other device~~ *all other recipients in the Recipient_List*. The TD acknowledges the alarm and verifies that the acknowledgment is properly noted by the IUT. The IUT notifies all other recipients that the alarm has been acknowledged.

Configuration Requirements: The IUT shall be configured with ~~at least~~ one object that can detect alarm conditions and send confirmed notifications. The Acked_Transitions property shall have the value B'111' indicating that all transitions have been acknowledged. The TD and ~~at least~~ one other BACnet device *if the IUT supports multiple recipients* shall be recipients of the alarm notification.

Test Steps:

1. MAKE (a change that triggers the detection of an alarm event in the IUT)
2. WAIT (Time_Delay)
3. BEFORE **Notification Fail Time**
 - RECEIVE ConfirmedEventNotification-Request,
 - 'Process Identifier' = (the process identifier configured for this event),
 - 'Initiating Device Identifier' = IUT,
 - 'Event Object Identifier' = (the object detecting the alarm),
 - 'Time Stamp' = (the current time or sequence number),
 - 'Notification Class' = (the notification class configured for this event),
 - 'Priority' = (the priority configured for this event),

- 'Event Type' = (any valid event type),
 'Notify Type' = (the notify type configured for this event),
 'AckRequired' = TRUE,
 'From State' = NORMAL,
 'To State' = (any appropriate non-normal event state),
 'Event Values' = (the values appropriate to the event type)
4. TRANSMIT BACnet-SimpleACK-PDU
5. RECEIVE
- DESTINATION = (at least one device other than the TD),
 SOURCE = IUT,
 ConfirmedEventNotification-Request,
 'Process Identifier' = (the process identifier configured for this event),
 'Initiating Device Identifier' = IUT,
 'Event Object Identifier' = (the object detecting the alarm),
 'Time Stamp' = (the timestamp or sequence number received in step 3),
 'Notification Class' = (the notification class configured for this event),
 'Priority' = (the priority configured for this event),
 'Event Type' = (any valid event type),
 'Notify Type' = (the notify type configured for this event),
 'AckRequired' = TRUE,
 'From State' = NORMAL,
 'To State' = (any appropriate non-normal event state),
 'Event Values' = (the values appropriate to the event type)
6. TRANSMIT BACnet-SimpleACK-PDU
7. VERIFY (the 'Event Object Identifier' from the event notification),
 Acked Transitions = (FALSE, TRUE, TRUE)
8. TRANSMIT AcknowledgeAlarm-Request,
- 'Acknowledging Process Identifier' = (the value of the 'Process Identifier' parameter in the event notification),
 'Event Object Identifier' = (the 'Event Object Identifier' from the event notification),
 'Event State Acknowledged' = (the state specified in the 'To State' parameter of the notification),
 'Time Stamp' = (the time stamp conveyed in the notification),
 'Time of Acknowledgment' = (the TD's current time using a Time format)
9. RECEIVE BACnet-Simple-ACK-PDU
10. IF (Protocol_Revision is present and Protocol_Revision \geq 1) THEN
- BEFORE **Notification Fail Time**
- RECEIVE ConfirmedEventNotification-Request,
 'Process Identifier' = (the process identifier configured for this event),
 'Initiating Device Identifier' = IUT,

'Event Object Identifier' = (the object detecting the alarm),
 'Time Stamp' = (the current time or sequence number),
 'Notification Class' = (the notification class configured for this
 event),
 'Priority' = (the priority configured for this event),
 'Event Type' = (the event type included in step 3),
 'Notify Type' = ACK_NOTIFICATION,
 'To State' = (the 'To State' used in step 3)

ELSE

BEFORE Notification Fail Time

RECEIVE ConfirmedEventNotification-Request,

'Process Identifier' = (the process identifier configured for this
 event),

'Initiating Device Identifier' = IUT,

'Event Object Identifier' = (the object detecting the alarm),

'Time Stamp' = (the current time or sequence number),

'Notification Class' = (the notification class configured for this
 event),

'Priority' = (the priority configured for this event),

'Event Type' = (the event type included in step 3),

'Notify Type' = ACK_NOTIFICATION,

'To State' = (the 'To State' used in step 3)

11. TRANSMIT BACnet-SimpleACK-PDU

12. IF (Protocol_Revision is present and Protocol_Revision \geq 1) THEN

BEFORE Notification Fail Time

RECEIVE

DESTINATION = (at least one device other than the TD),

SOURCE = IUT,

ConfirmedEventNotification-Request,

'Process Identifier' = (the process identifier configured for this
 event),

'Initiating Device Identifier' = IUT,

'Event Object Identifier' = (the object detecting the alarm),

'Time Stamp' = (the timestamp or sequence number received
 in step 10),

'Notification Class' = (the notification class configured for this

event),

'Priority' = (the priority configured for this event),

'Event Type' = (the event type included in step 3),

'Notify Type' = ACK_NOTIFICATION,

'To State' = (the 'To State' used in step 3)

ELSE

BEFORE Notification Fail Time

RECEIVE

DESTINATION = (at least one device other than the TD),

SOURCE = IUT,

ConfirmedEventNotification-Request,
 'Process Identifier' = (the process identifier configured for this event),
 'Initiating Device Identifier' = IUT,
 'Event Object Identifier' = (the object detecting the alarm),
 'Time Stamp' = (the timestamp or sequence number received in step 10),
 'Notification Class' = (the notification class configured for this event),
 'Priority' = (the priority configured for this event),
 'Event Type' = (the event type included in step 3),
 'Notify Type' = ACK_NOTIFICATION

13. TRANSMIT BACnet-SimpleACK-PDU

14. VERIFY (the 'Event Object Identifier' from the event notification),
 Acked_Transitions = (TRUE,TRUE,TRUE)

Notes to Tester: The destination address used for the acknowledgment notification in step 12 shall be the same address used in step 5. Inclusion of the 'To State' parameter in acknowledgement notifications was added in protocol version 1, protocol revision 1. Implementations that precede this version will not include this parameter. When multiple event notifications are expected for a specific event, the order that the IUT transmits them in is irrelevant. *If the IUT can only be configured with one recipient in the Recipient_List property of the issuing Notification_class object, skip all steps related to receipt of the second notification.*

I see one major and one minor problem in the test:

In step 3 a transition to any non NORMAL state is expected. This would also include ToFault transitions but it would not allow Normal to Normal transitions.

1. in step 7 AckedTransitions is expected to be (F,T,T). This expectation is wrong if a ToFault transition is used in step 3 so the test will fail a properly working device.
 In the similar test 9.1.1.8 the corresponding CHECK step looks like: "Acked_Transitions = (one bit FALSE, the others TRUE)

2. By not allowing for ToNormal transitions in step 3, a number of possible testcases, i.e. logging objects that can only do NormalToNormal transitions, will be outside the scope of this test.

Questions:

Should the tests be changed similar to the pattern of 9.1.1.8 to account for problem 1?
 Should NormalToNormal transitions be allowed for the test?

Response:

Tests in section 9.1.1 will be revised to also include ToFault transitions and to permit the tests to be applied to Normal to Normal transitions.