Clarification Request

References: BTL Specified Test 13.X1.1

Date of BTL-WG Response: January 3, 2012

As per test step 21 for test 13.X1.1: After ending Restore procedure, value of Database_Revision property of Device Object should be “any value not equal to the values obtained in steps 2 and 12b” as Database_Revision was changed in test step 12.

Here, after ending restore procedure, when we verified ‘Database_Revision’, it shows 0 value.

When we again checked ‘Database_Revision’ after 30-35 seconds, it shows the incremented value.

1. 13.X1.1 Execution of Full Backup and Restore Procedure

Reason for Change: No relevant test exists in 135.1. This test is not contained in any SSPC proposal.

Reason for Change: The IUT does not have to provide a means - other than performing a restore procedure - by which the Database_Revision property can be incremented.

Purpose: This test case verifies that the IUT can execute a full Backup and Restore procedure.

Test Concept: This test takes the IUT through a full Backup and Restore procedure. The Database_Revision and Last_Restore_Time properties are noted before the procedure begins for later comparison. The IUT is then commanded to enter the Backup state; all the files are read, and the IUT is commanded to end the backup. If the Database_Revision property can be changed by means other than the restore procedure, it is modified and checked to insure that it incremented correctly, then the IUT is commanded to enter the Restore state. If the file objects do not exist on the IUT, the IUT is commanded to create them. The files are then truncated to size 0. The file contents are then written to the IUT, and the IUT is commanded to end the restore. The Database_Revision and Last_Restore_Time properties are checked to insure that they incremented or advanced correctly.

For IUTs that use Stream Access when performing the AtomicReadFile and AtomicWriteFile services, a Maximum Requested Octet Count and a Maximum Write Data Length must be calculated before starting the test. These values will be used during the test. The Maximum Requested Octet Count shall be sixteen (16) less than the minimum of the TD’s Max_APDU_Length_Accepted and the IUT’s maximum transmittable APDU length. The Maximum Write Data Length shall be twenty one (21) less than the minimum of the TD’s maximum transmittable APDU length and the IUT’s Max_APDU_Length_Accepted.

Configuration Requirements: At the start of the test, the device configuration must match the epics.

Test Steps:

1. TRANSMIT ReadProperty-Request,
   ‘Object Identifier’ = (The IUT’s Device object)

'Property Identifier' = Database_Revision

2. RECEIVE ReadProperty-ACK
'Object Identifier' = (The IUT's Device object)
'Property Identifier' = Database_Revision
'Property Value' = (any value)
3. TRANSMIT ReadProperty-Request,
'Object Identifier' = (The IUT's Device object)
'Property Identifier' = Last_Restore_Time
4. RECEIVE ReadProperty-ACK
'Object Identifier' = (The IUT's Device object)
'Property Identifier' = Last_Restore_Time
'Property Value' = (any value)
5. TRANSMIT ReinitializeDevice-Request,
'Reinitialized State of Device' = STARTBACKUP,
'Password' = (any valid password)
6. RECEIVE BACnet-Simple-ACK-PDU
7. VERIFY (the IUT's Device object), Configuration_Files = (any non-empty array of BACnetObjectIdentifiers)
8. REPEAT X = (BACnetObjectIdentifiers obtained from step 7) DO {
TRANSMIT ReadProperty-Request,
'Object Identifier' = X,
'Property Identifier' = File_Access_Method,
RECEIVE ReadProperty-ACK
'Object Identifier' = X,
'Property Identifier' = File_Access_Method,
'Property Value' = Y, where Y = RECORD_ACCESS or Y = STREAM_ACCESS
IF (Y = RECORD_ACCESS)
TRANSMIT ReadProperty-Request,
'Object Identifier' = X,
'Property Identifier' = Record_Count
RECEIVE ReadProperty-ACK
'Object Identifier' = X,
'Property Identifier' = Record_Count
'Property Value' = R (any number)
REPEAT Z = (each record in the file) DO {
TRANSMIT AtomicReadFile-Request,
'Object Identifier' = X,
'File Start Record' = Z,
'Requested Record Count' = 1
RECEIVE AtomicReadFile-ACK,
'Object Identifier' = X,
'File Start Record' = Z,
'Requested Record Count' = 1
'Returned Data' = (File contents)
}
ELSE
TRANSMIT ReadProperty-Request,
'Object Identifier' = X,
'Property Identifier' = File_Size,
RECEIVE ReadProperty-ACK
'Object Identifier' = X,
'Property Identifier' = File_Size,
'Property Value' = S (any number)
WHILE (There is more file to be read as determined by the value of File_Size returned in step 8) DO {
TRANSMIT AtomicReadFile-Request,

‘Object Identifier’ = X,
‘File Start Position’ = (The next unread octet),
‘Requested Octet Count’ = (The Maximum Requested Octet Count as determined prior to start of test)

RECEIVE AtomicReadFile -ACK,
‘Object Identifier’ = X,
‘File Start Position’ = (The next unread octet),
‘Requested Octet Count’ = (The Maximum Requested Octet Count as determined prior to start of test)
‘File Data’ = (File contents)

}

}

9. TRANSMIT ReinitializeDevice-Request,
‘Reinitialize State Of Device’ = ENDBACKUP,
‘Password’ = (any valid password)
10. RECEIVE BACnet-Simple-ACK-PDU
11. VERIFY (the IUT’s Device object), System_Status != BACKUP_IN_PROGRESS
12. *IF (Database_Revision is changeable) THEN*
    a. MAKE (the configuration in the IUT different, such that the Database_Revision property increments)
    b. VERIFY (the IUT’s Device object), Database_Revision = (any value not equal to the value obtained in step 2)
13. TRANSMIT ReinitializeDevice-Request,
‘Reinitialize State Of Device’ = STARTRESTORE,
‘Password’ = (any valid password)
14. RECEIVE BACnet-Simple-ACK-PDU
15. TRANSMIT ReadProperty-Request,
‘Object Identifier’ = (The IUT’s Device object)
‘Property Identifier’ = Object_List
16. RECEIVE ReadProperty-ACK
17. REPEAT X = (BACnetObjectIdentifiers obtained from step 7) DO {
IF (Object_List obtained in step 10 does not contain X)
TRANSMIT CreateObject-Request
‘Object Identifier’ = X
RECEIVE CreateObject-ACK
‘Object Identifier’ = X

TRANSMIT ReadProperty-Request
‘Object Identifier’ = X
‘Property Identifier’ = File_Size
RECEIVE ReadProperty-ACK
‘Object Identifier = X
‘Property Identifier’ = File_Size
‘Property Value’ = (any value)
IF (File_Size is not equal to the size of the backed up file)
TRANSMIT WriteProperty-Request
‘Object Identifier’ = X
‘Property Identifier’ = File_Size
‘Property Value’ = 0
RECEIVE BACnet-Simple-ACK-PDU
IF (Y = RECORD_ACCESS)
TRANSMIT AtomicWriteFile-Request
‘File Identifier’ = X
‘File Start Record’ = 0
‘Record Data’ = (file content for first record obtained in step 6)
RECEIVE AtomicWriteFile-ACK

'File Start Record' = 0
FOR Z = (number of records obtained in step 6 - 1) {
TRANSMIT AtomicWriteFile-Request
'File Identifier' = X
'File Start Record' = -1
'Record Count' = 1
'Record Data' = (file contents for this record obtained in step 6)
RECEIVE AtomicWriteFile-ACK
'File Start Record' = -1
}
ELSE
WHILE (There is still octets to be written for this file) DO {
TRANSMIT AtomicWriteFile-Request
'File Identifier' = X
'File Start Position' = (The next unwritten octet, starting at 0)
'Record Data' = (file contents obtained in step 6, the number of octets being equal to the minimum of the number of octets left to write, and the Maximum Write Data Length determined prior to the start of the test)
RECEIVE AtomicWriteFile-ACK
'File Start Position' = (The next unwritten octet, starting at 0)
}

19. TRANSMIT ReinitializeDevice-Request,
'Reinitialize State Of Device' = ENDRESTORE,
'Password' = (any valid password)
20. RECEIVE BACnet-Simple-ACK-PDU
21. *IF (Database_Revision was changed in step 12) THEN*
VERIFY (the IUT's Device object), Database_Revision = (any value not equal to the values obtained in steps 2 and 12b)
ELSE
VERIFY (the IUT's Device object), Database_Revision = (any value not equal to the value obtained in steps 2)
22. VERIFY (the IUT's Device object), Last_Restore_Time = (any value later than value obtained in step 4)
23. VERIFY (the IUT's Device object), Object_List = (the value defined for this property in the EPICS)
24. REPEAT X = (all objects in the IUT's database) DO {
VERIFY (X), Object_Name = (the value defined for this property in the EPICS)
}

Proposed Solution:

If IUT is permitted latitude to respond after Internal Processing Fail Time, then in the test steps for this test, then it should after test step #20 mention: "WAIT Internal Processing Fail Time"

Response:

At the point in this test after step 20, the IUT is allowed to take an extraordinary amount of time to perform Restore actions. This will be called the Restore_Completion_Time. A future revision of this test will incorporate whether this value comes from the Restore_Completion_Time property or from a vendor specified amount of time.