

### Clarification Request

**Request from:** Craig Gemmill <craig.gemmill@tridium.com>

**References:** ASHRAE 135-2010 section 12.24.4 12.24.6

**Stage:** ☒ Request, ☐ Listed, ☐ Analysis, ☐ Resolved

**Actions necessitated:** ☐ Checklist/Test Plan change, ☒ BTL Specified Tests change, \_\_\_\_\_, 7.3.2.23.X.1\_\_\_\_  
☐ SSPC Interpretation required, ☐ Implementation Guidelines change,

**Date of BTL-WG Response:** \_\_\_\_\_  
☐ All actions necessitated have been completed

### Background / Proposed Solution:

The existing test 7.3.2.23.X2.1 (recently redesignated 7.3.2.23.X.1 in 135.1-2009j) expresses the Pass criteria in terms of observing changes in the referenced property, whereas similar, and almost parallel tests such as 7.3.2.23.X.2 have explicit VERIFY Present\_Value = V1 statements.

### 7.3.2.23.X.1 Revision 4 Effective\_Period Test

Reason for Change: No tests existed for revision 4 functionality. The change is in SED-005.

Dependencies: ReadProperty Service Execution Tests, 9.18; TimeSynchronization Service Execution Tests, 9.30.

BACnet Reference Clause: 12.24.6.

Purpose: To verify that Effective\_Period controls the range of dates during which the Schedule object is active.

Test Concept: Two Date values are chosen by the TD based on the criteria in Table 7-1 such that one is outside of the Effective\_Period and the other corresponds to a known scheduled state inside the Effective\_Period. The IUT's local date and time are changed between these dates and a property referenced by the List\_Of\_Object\_Property\_References property is monitored to verify that write operations occur only within the Effective\_Period.

Configuration Requirements: The IUT shall be configured with a schedule object such that the time periods defined in Table 7-1 have uniquely scheduled values. The local date and time shall be set such that the Present\_Value property has a value other than V<sub>1</sub>. The List\_Of\_Object\_Property\_References property shall contain at least one reference either to a property within the IUT alterable by the Schedule object or a writable property in another device (in either case: the "referenced property"); if the List\_Of\_Object\_Property\_References property cannot be thus configured this test shall be skipped.

**Table 7-1.** Criteria for Effective\_Period Test Dates and Values

Date:	Criteria:	Value:
D <sub>1</sub>	1. Date occurs during Effective_Period, and 2. Date appears either in Weekly_Schedule or Exception_Schedule.	V <sub>1</sub>
D <sub>2</sub>	1. Date does not occur during Effective_Period, and 2. Date appears either in Weekly_Schedule or Exception_Schedule.	V <sub>2</sub> different from V <sub>1</sub> .

Test Steps:

1. VERIFY "referenced property" = (any value other than  $V_1$ )
2. (TRANSMIT TimeSynchronization-Request, 'Time' =  $D_1$ )  
     | (TRANSMIT UTCTimeSynchronization-Request, 'Time' =  $D_1$  converted to UTC)  
     | MAKE (the local date and time =  $D_1$ )
3. WAIT **Schedule Evaluation Fail Time**
4. VERIFY "referenced property" =  $V_1$
5. (TRANSMIT TimeSynchronization-Request, 'Time' =  $D_2$ )  
     | (TRANSMIT UTCTimeSynchronization-Request, 'Time' =  $D_2$  converted to UTC)  
     | MAKE (the local date and time =  $D_2$ )
6. WAIT **Schedule Evaluation Fail Time**
7. VERIFY "referenced property" =  $V_1$

Language in 12.24.4 says

These calculations are such that they can be performed at any time and the correct value of Present\_Value property will result.

Thus, presumably, they could be carried out upon leaving Effective\_Period also. Further the next sentence says

These calculations must be performed at 00:00 each day,...

with no mention of whether that day falls within Effective\_Period. Later still

Any change in the value of this property shall be written to all members of the List\_Of\_Object\_Property\_References property.

Then in section 12.24.6

This property specifies the range of dates within which the Schedule object is active. Seasonal scheduling may be achieved by defining several SCHEDULE objects with non-overlapping Effective\_Periods to control the same property references.

which doesn't talk in terms of writes, but of the object being active. Performing the calculation and reflecting the result in the Present\_Value of a Schedule while it is not active due to being outside of Effective\_Period, is the essence of the question.

At issue here is exactly what the definition of "active" is, which is not part of the standard. In support of our interpretation, I think it doesn't make sense that a schedule would just be left at whatever it happened to be. The intent of a "default" value is to provide behavior when the object is not "active", which is exactly the case in this situation – the Schedule is not "active", so it should use its "default" value (defined by Schedule\_Default).

It sounds like this might be something that warrants SSPC discussion/clarification.

#### **Question:**

Should observing changes in the Present\_Value of a Schedule while it is not active due to being outside of Effective\_Period time range, be considered a Failed result in test 7.3.2.23.X.1 in our Test Plan?

#### **Response:**

The standard is unclear as to whether the Present\_Value should change when outside of the Effective\_Period. An Interpretation Request will be made to SSPC to determine whether the Present\_Value should change or not. In the meantime, the value in the Present\_Value property is not relevant in the Pass criterion of this test.