

**INTERPRETATION IC 135-2024-7 OF  
ANSI/ASHRAE STANDARD 135-2024 BACnet® -  
A Data Communication Protocol for Building  
Automation and Control Networks**

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**Reference:** This request for interpretation refers to ANSI/ASHRAE Standard 135-2024 and pertains to the exclusivity of the Restart\_Notification\_Recipients property in the Device object.

**Background:**

**12.11.41 Time\_Of\_Device\_Restart**

This property, of type BACnetTimeStamp, is the time at which the device was last restarted. See Clause 19.3 for a description of the restart procedure.

**12.11.42 Restart\_Notification\_Recipients**

This property, of type BACnetLIST of BACnetRecipient, is used to control the restrictions on which devices, if any, are to be notified when a restart occurs. The value of this property shall be a list of zero or more BACnetRecipients. If the list is of length zero, a device is prohibited from sending a device restart notification. The default value of the property shall be a single entry representing a broadcast on the local network. If the property is not writable, then it shall contain the default value. If the list is of length one or more, a device shall send a restart notification, but only to the devices or addresses listed. See Clause 19.3 for a description of the restart procedure.

**13.1.1 Unsubscribed COV Notifications**

Some objects may share information by generating UnconfirmedCOVNotification messages without using COV subscriptions. As described in Clause 13.7, such notifications set the Subscriber Process Identifier parameter to zero to identify them as unsubscribed.

The use of UnconfirmedCOVNotification messages in this manner is not restricted, and any object can use this mechanism to distribute its properties' values to one or more recipients. The selection of which properties to send and the criteria for when to send them are a local matter. A single object is not restricted to sending a single set of properties and thus may use this mechanism for different purposes with different collections of properties to different recipients.

Some standardized objects have standardized usages of this mechanism, and those are listed in Table 13-1b. Inclusion in the table does not restrict other collections of properties from being sent for other purposes.

**Table 13-1b.** Standardized Objects That May Support Standardized Unsubscribed COV Reporting

| Object Type  | Distribution Controlled By      | Criteria  | Properties Reported   |
|--------------|---------------------------------|---|---|
| Device       | Restart_Notification_Recipients | Device has completed the restart process. See Clause 19.3 | System_Status, Time_Of_Device_Restart, Last_Restart_Reason                |
| Global Group | COVU_Recipients                 | Periodic, as determined by COVU_Period                    | Member_Status_Flags <sup>1</sup> , Elements of Present_Value <sup>1</sup> |

<sup>1</sup> For Global Group, the elements of Present\_Value shall be encoded individually each in its own BACnetPropertyValue production and shall include its array index. The elements shall be sent in index order and the first element shall be the Unsigned value at array index 0 (to inform recipients of the total array size). If the total Present\_Value array is too large to fit within a single message, then multiple notifications shall be sent in order to convey all the elements. If a single element is too large to fit in a single message, it shall be encoded as an Error production with an 'Error Class' of PROPERTY and an 'Error Code' of

VALUE\_TOO\_LONG. When multiple notifications are required, the index 0 element of Present\_Value and the Member\_Status\_Flags shall be present only in the first notification.

### 13.1.2 Transmitting Unconfirmed COV Notification Requests

There are three circumstances under which a device may transmit an UnconfirmedCOVNotification or UnconfirmedCOVNotificationMultiple request:

- (a) The device has an active COV or COV-multiple subscription that specifies 'Issue-Confirmed-Notifications' is FALSE, and a change of value occurs to the subscribed-to object or property or a notification delay elapses;
- (b) The device is configured, as a local matter, to send unsubscribed UnconfirmedCOVNotification or UnconfirmedCOVNotificationMultiple requests;
- (c) The device performs the device restart procedure as defined in Clause 19.3.

In the first case, since the subscriber device is known, the UnconfirmedCOVNotification or UnconfirmedCOVNotificationMultiple request shall be transmitted as a unicast to the subscriber device.

In the second case, the server may elect to deliver the unsubscribed UnconfirmedCOVNotification or UnconfirmedCOVNotificationMultiple request using a unicast or broadcast address as configured. The 'Process Identifier' parameter for requests being broadcast shall be zero.

### 19.3 Device Restart Procedure

When a BACnet device restarts, there are a number of different configuration items that can be lost. For example, a device need not remember which devices have subscribed to receive change-of-value notifications or to which values they have subscribed. For this reason, other devices may be interested in determining when a device has restarted. This section outlines how a device may interoperably indicate that it has restarted.

When a device is powered on, when it restarts due to a ReinitializeDevice service (ACTIVATE\_CHANGES, COLDSTART or WARMSTART), or when it restarts for some other reason, the device shall transmit an UnconfirmedCOVNotification request. The 'Subscriber Process Identifier' parameter shall be 0, the 'Monitored Object Identifier' parameter shall reference the Device object, the 'Time Remaining' parameter shall be 0, and the 'List of Values' parameter shall contain three values, the System Status, the Time Of Device Restart, and the Last Restart Reason properties of the Device object. The device shall transmit this message after the complete power-up or restart sequence has been completed so that the system-status value is accurate.

The device shall send the restart notification to each recipient in the Restart\_Notification\_Recipients property of the Device object.

MS/TP subordinate nodes are not able to support this procedure, although they may support the Time\_Of\_Device\_Restart and Last\_Restart\_Reason properties.

**Problem:** A device initiates an UnconfirmedCOVNotification message to each member in the Restart\_Notification\_Recipients property when the device becomes non-operational due to a pending restart. The message contains the properties as specified in the Device section of Table 13-1b with the System\_Status equal to NON\_OPERATIONAL, Time\_Of\_Device\_Restart equal to the time of the last restart, and the Last\_Restart\_Reason equal to the reason for the restart.

**Interpretation:** The Restart\_Notification\_Recipients property can only be used to initiate UnconfirmedCOVNotification as specified in 135-2024, Clause 19.3.

**Question:** Is this Interpretation correct?

**Answer:** Yes.