ASHRAE's BACnet Protocol Implementation Conformance Statement (PICS)

Date: February 7, 2018
Vendor Name: Lutron Electronics Co., Inc.
Product Name: myRoom BACnet Integration
Applications Software Version: 2.0
Firmware Revision: 3.3
BACnet Protocol Revision: 4
Vendor ID: 176

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Product Description

BACnet IP is embedded in the myRoom processor. There are two types of BACnet devices available in myRoom: system devices and area devices. The system devices are main BACnet devices; typically, one main device per guestroom. The area devices are virtual BACnet devices of the system device, there can be one or more per guestroom. It is normal to have multiple system main devices and area virtual devices in a project.

BACnet Interoperability Building Blocks Supported (Annex K):

K.1.2 BIBB	Data Sharing	ReadProperty-B (DS-RP-B)
K.1.4 BIBB	Data Sharing	ReadPropertyMultiple-B (DS-RPM-B)
K.1.8 BIBB	Data Sharing	WriteProperty-B (DS-WP-B)
K.1.10 BIBB	Data Sharing	WritePropertyMultiple-B (DS-WPM-B)
K.1.12 BIBB	Data Sharing	COV-B (DS-COV-B)
K.5.2 BIBB	Device Management	DynamicDeviceBinding-B (DM-DDB-B)
K.5.4 BIBB	Device Management	DynamicObjectBinding-B (DM-DOB-B)
K.5.6 BIBB	Device Management	DeviceCommunicationControl-B (DM-DCC-B)

BACnet Standardized Device Profile (Annex L):

BACnet Application Specific Controller (B-ASC)

Segmentation Capability:

Segmented requests supported? **No.**   Window Size: **n/a**
Segmented responses supported? **No.**   Window Size: **n/a**

Non-Standard Application Services:

Non-standard application services are not supported.

Limitations:

Certain BACnet objects and values that are not supported by the myRoom system may show up in the BACnet terminal. Those should not be used. Only the BACnet objects and values mentioned in this document should be used.

Standard Object Types Supported:

Device

1. Dynamically creatable using BACnet CreateObject service? **No.**
2. Dynamically deletable using BACnet DeleteObject service? **No.**
3. List of optional properties supported: Active COV_Subscriptions, Description, Location, Profile_Name.
4. List of all properties that are writable where not otherwise required by this standard: **None.**
5. List of proprietary properties: **None.**
6. List of any property value range restrictions: **None.**

Binary Value

1. Dynamically creatable using BACnet CreateObject service? **No.**
2. Dynamically deletable using BACnet DeleteObject service? **No.**
3. List of optional properties supported: Active_Text, Inactive_Text.
4. List of all properties that are writable where not otherwise required by this standard: **None.**
5. List of proprietary properties: **None.**
6. List of any property value range restrictions: **See Table.**

Multi-State Value

1. Dynamically creatable using BACnet CreateObject service? **No.**
2. Dynamically deletable using BACnet DeleteObject service? **No.**
3. List of optional properties supported: State_Text.
4. List of all properties that are writable where not otherwise required by this standard: **None.**
5. List of proprietary properties: **None.**
6. List of any property value range restrictions: **See Table.**

Data Link Layer Options:

BACnet IP

Device Address Binding:

Is static device binding supported? **No.**

Networking Options:

BACnet / IP Annex J — non-BBMD functionality; the myRoom processor is able to register as a foreign device. The myRoom processor is able to initiate original-broadcast-NPDU.

Character Sets Supported:

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.
- ANSI X3.4

BACnet Routing:

Routes between the connected physical BACnet network and a virtual BACnet network.

Job Name:	Model Numbers:
Job Number:	

Object Name	Type	Instance	Read	Write	COV	Units	Min PV	Max PV	Inactive Text (0)	Active Text (1)	State Text (Multi-State)
{SystemName} {Instance}	DEVICE	{Base} + {System} + 1	X	—	—	—	—	—	—	—	—
Notes: The System Name is the logical name of one of the myRoom systems that typically corresponds to a physical guestroom. The Instance is the same as the unique Device ID assigned to each system.											
{TimeclockName} Enabled	BV	1000 to 1999	X	X	X	—	0	1	Disabled	Enabled	—
Notes: For each timeclock in the myRoom system, there will be one instance number in the range from 1000 to 1999, that can either Enable or Disable that timeclock in the system, or query its current enable state. Please note that for each such instance, there will be a corresponding instance at the same offset but within the range from 2000 to 2999, a {TimeclockName} Enable Command object, similar but with more functionality. Write with 0 to Disable Permanently. The timeclock will no longer affect objects in the system. Write with 1 to Enable Without Catch Up. The timeclock will affect objects in the system as programmed, but only starting with future events. Read {TimeclockName} Enabled will return 0 (Disabled) if the last {TimeclockName} Enable Command was any of the following: • Disable Permanently • Disable Until End of Day Without Catch Up • Disable Until End of Day With Catch Up Read {TimeclockName} Enabled will return 1 (Enabled) if the last {TimeclockName} Enable Command was any of • Enable Without Catch Up • Enable With Catch Up • Enable and Run Previous Event Only											

BV = Binary-Value

{SystemName} is a text string defined in the Lutron myRoom system configuration software

{Instance} is a number defined in the Lutron myRoom system configuration software that is equal to the {Base} number + {System} number +1

{Base} is a 22-bit value set in the Lutron myRoom system configuration software (default 1760000)

{System} is an 8-bit value set in the Lutron myRoom system configuration software (0 to 127)

{TimeclockName} is a text string defined in the Lutron myRoom system configuration software

{VariableName} is a text string defined in the Lutron myRoom system configuration software

{VariableStateCount} is the number of states defined for this variable in the Lutron myRoom system configuration software

{StateName} is a text string defined in the Lutron myRoom system configuration software

PV = Present-Value

Job Name:	Model Numbers:
Job Number:	

Object Name	Type	Instance	Read	Write	COV	Units	Min PV	Max PV	Inactive Text (0)	Active Text (1)	State Text (Multi-State)
{TimeclockName} Enable Command	MSV	2000 to 2999	X	X	X	—	1	6	—	—	1 = Disable Permanently 2 = Disable Until End of Day Without Catch Up 3 = Disable Until End of Day With Catch Up 4 = Enable Without Catch Up 5 = Enable With Catch Up 6 = Enable and Run Previous Event Only

Notes: For each timeclock in the myRoom system, there will be one instance number in the range from 2000 to 2999, that can either Enable or Disable that timeclock in the system, or query its current enable state.

Please note that for each such instance, there will be a corresponding instance at the same offset but within the range from 1000 to 1999, a {TimeclockName} Enabled object, similar but with less functionality.

Please note that if there are multiple systems, the instance number representing an individual timeclock appears in each system's BACnet system device. To enable or disable the timeclock for all systems, write to the same instance number in each system's BACnet system device.

WRITING:

Write with 1 to Disable Permanently. The timeclock will no longer affect objects in the system.

Write with 2 to Disable Until End of Day Without Catch Up. The timeclock will not affect objects in the system until midnight, at which time it will affect objects in the system as programmed, but only starting with future events.

Write with 3 to Disable Until End of Day With Catch Up. The timeclock will not affect objects in the system until midnight, at which time it will "catch up", or set objects in the system to the net state that would have obtained had the timeclock been enabled the whole time. Thereafter, it will affect objects in the system as programmed.

Write with 4 to Enable Without Catch Up. The timeclock will affect objects in the system as programmed, but only starting with future events.

Write with 5 to Enable With Catch Up. The timeclock will "catch up", or set objects in the system to the net state that would have obtained had the timeclock never been disabled (accounting for missed events for up to the last seven days). Thereafter, it will affect objects in the system as programmed.

Write with 6 to Enable and Run Previous Event Only. The timeclock will run only the single last scheduled event. Thereafter, it will affect objects in the system as programmed.

READING:

If timeclock state was last changed by writing to {TimeclockName} Enable Command any of:

- Disable Permanently
- Disable Until End of Day Without Catch Up
- Disable Until End of Day With Catch Up

Read thereof will return the same (1, 2, or 3). If timeclock state was last changed by writing to {TimeclockName} Enable Command was any of:

- Enable Without Catch Up
- Enable With Catch Up
- Enable and Run Previous Event Only

Read thereof will return 4 (Enable Without Catch Up).

If timeclock state was last changed by writing 0 to the {TimeclockName} Enabled instance, then read of {TimeclockName} Enable Command will return 1 (Disable Permanently).

If timeclock state was last changed by writing 1 to the {TimeclockName} Enabled instance, then read of {TimeclockName} Enable Command will return 4 (Enable Without Catch Up).

Object Name	Type	Instance	Read	Write	COV	Units	Min PV	Max PV	Inactive Text (0)	Active Text (1)	State Text (Multi-State)
{VariableName} Current Variable State	MSV	4000 to 4999	X	X	X	—	1	{Variable State Count}	—	—	{StateName}

Notes: The current value of a "State Variable". The State Variable can be used during the evaluation of conditional logic on button programming as configured in the myRoom system configuration software. The number of states, as well as the state names, must be configured inside the myRoom system configuration software. The myRoom system uses Guest Presence Detection (GPD) to determine the overall occupancy of the guest room and reports this via a state variable. This variable can be monitored for the GPD state of the room.

BV = Binary-Value, MSV = Multi-State-Value

{TimeclockName} is a text string defined in the Lutron myRoom system configuration software

{VariableName} is a text string defined in the Lutron myRoom system configuration software

{VariableStateCount} is the number of states defined for this variable in the Lutron myRoom system configuration software

{StateName} is a text string defined in the Lutron myRoom system configuration software

PV = Present-Value

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Job Name:	Model Numbers:
Job Number:	