****

BACnet TESTING LABORATORIES

INTERIM TEST FUNCTIONALITY CHECKLIST

To Be Used with Test Package 26.0

Version 3

July 24, 2025

Approved by the BTL Working Group July 24, 2025.

Approved by the BTL Working Group Voting Members August 11, 2025.

Published on August 13, 2025.

# Introduction

This checklist is in addition to the ***BTL Functionality Checklist*** and identifies the functionality beyond the Protocol\_Revision of the released test package or functionality not yet tested by the current test package.

Vendors who are planning to submit a device at a Protocol\_Revision beyond the Protocol\_Revision of the released test package or includes functionality not yet tested by the current test package shall also complete this checklist.

Please note, the functionality implemented in a specific device may result in changes to this document as well as new or updated tests in the interim test package. Please contact the BTL Manager before submitting your device for testing to ensure you are aware of all tests that will need to be applied to your device.

The updates to the checklist specified in this document are for interim testing only and may or may not be used when the final changes are applied to the next Test Package revision. Devices tested using this interim test document may be recalled for updated testing when the next revision of test package is released that includes the functionality covered here.

The Listing column indicates whether the option is required or not. The codes in the table are:

R = Required. Items marked with this listing code are required for a listing if the IUT implements the associated BIBB, object type, or functional category.

BTL-R = Required by BTL. Items marked with this listing code are required for a listing if the IUT implements the associated BIBB, object type, or functional category.

C = Conditionally Required. Items marked with this listing code may be required for a listing if the IUT implements the associated BIBB, object type, or functional category. The conditions under which the item will be required are identified in a footnote in the Checklist table.

BTL-C = Conditionally Required by BTL. Items marked with this listing code may be required for a listing if the IUT implements the associated BIBB, object type, or functional category. The conditions under which the item will be required are identified in a footnote in the Checklist table.

S = Suggested. The BTL suggests that all IUTs implement this option if they implement the associated BIBB, object type, or functional category.

O = Optional. Items marked with this listing code are optional.

N = Not recommended. The BTL recommends against IUTs implementing this option due to possible interoperability or performance problems related with the option.

# IUT Information

This section shall provide additional information about the IUT when the BTL Checklist is filled out.

|  |  |
| --- | --- |
| Fill out date |  |
| Vendor Name |  |
| Product Name |  |
| Product Model Number |  |
| BACnet Protocol Version | 1 |
| BACnet Protocol Revision |  |
| BACnet Device Profile |  |
| BACnet Firmware Revision |  |
| BACnet Application Software Version |  |
|  |  |
| Remarks |  |

# 3 Objects

|  |  |  |
| --- | --- | --- |
| **…** | | |
| **Lighting Output Object** | | |
|  | R | Base Requirements |
|  | R | Supports command prioritization |
|  | R | Supports all BACnetLightingOperations |
|  | S | Supports configurable Out\_Of\_Service property |
|  | O | Supports blink-warn |
|  | O | Supports Transition property |
|  | O | Supports Feedback\_Value property |
|  | O | Supports Min\_Actual\_Value and Max\_Actual\_Value properties |
|  | O | Supports the value source mechanism. |
|  | O1,3 | Supports Color\_Reference property |
|  | O1 | Supports color override |
|  | O1,2 | Supports High\_End\_Trim or Low\_End\_Trim properties |
|  | O2 | Supports intrinsic reporting |
|  | O4 | Supports configurable Reliability\_Evaluation\_Inhibit property |
|  | O5,6 | Supports Last\_On\_Value and Default\_On\_Value properties |
| 1 Protocol\_Revision 24 or higher must be claimed  2 Protocol\_Revision 21 or higher must be claimed  3 Must be claimed if the IUT supports color override  4 Protocol\_Revision 13 or higher must be claimed. IUT shall not claim this functionality if the only method of generating a fault condition is by writing to the Reliability property.  5 Required if the device claims Protocol\_Revision of 28 or higher.  6 Contact BTL for interim tests for these properties. | | |
| **…** | | |

# 8 Device Management BIBBs

| **Support** | **Listing** | **Option** |
| --- | --- | --- |
| **…** | | |
| **Device Management - Device Address Proxying-View and Modify- A** | | |
|  | R1 | Base Requirements |
| 1 Contact BTL for interim tests for this BIBB. | | |
|  | | |
| **Device Management - Device Address Proxying - B** | | |
|  | R1 | Base Requirements |
|  | R | Executes ReadRange |
|  | O2 | Supports DM-SP-B |
| 1 Contact BTL for interim tests for this BIBB.  2 Required if the device supports Data Link Layer - MS/TP - Master Node. | | |

# 9 Data Link Layer

| **Support** | **Listing** | **Option** |
| --- | --- | --- |
| **Data Link Layer - MS/TP - Master Node** | | |
|  | R | Base Requirements |
|  | C1 | Supports writable Max\_Master property |
|  | C1 | Supports read only Max\_Master property |
|  | C2 | Contains configurable Max\_Info\_Frames property |
|  | C2 | Contains non-configurable Max\_Info\_Frames property |
|  | O | Is a BACnet router |
|  | C3,4 | Supports extended MS/TP frames (over 501 octets) |
|  | C5 | Supports the Network Port object |
|  | O6 | Supports configurable Out\_Of\_Service property |
|  | C7 | Supports hierarchical Network Port objects |
|  | C7 | Supports Non-hierarchical Network Port objects |
|  | C6,8 | Supports writable Network\_Number property |
|  | O6 | Supports the Routing\_Table property |
|  | O6 | Supports the Network Port object Command property |
|  | O6,9 | Supports the DISCARD\_CHANGES command |
|  | O6,9 | Supports the RESTART\_SLAVE\_DISCOVERY command |
|  | O6,9 | Supports the RESTART\_AUTONEGOTIATION command |
|  | O6,9 | Supports the RESTART\_PORT command |
|  | O9,10 | Supports the VALIDATE\_CHANGES command |
|  | O9,11,12 | Supports the RESTART\_DEVICE\_DISCOVERY command |
| 1 Exactly one of these options is required in order to claim conformance to this BIBB.  2 Exactly one of these options is required in order to claim conformance to this BIBB.  3 Protocol\_Revision 16 or higher must be claimed.  4 Required if the device is a router and claims Protocol\_Revision 16 or higher.  5 Required for devices which claim Protocol\_Revision 17 or higher and which support DS-WP-B.  6 Protocol\_Revision 17 or higher must be claimed.  7 At least one of these options is required if the IUT claims Protocol\_Revision 17 or higher.  8 Support for writable Network\_Number properties is required in routers and other IUTs that need to know the network number in order to operate.  9 At least one of these options is required if the Network Port object Command property is supported.  10 Protocol\_Revision 24 or higher must be claimed.  11 Protocol\_Revision 27 or higher must be claimed.  12 Contact BTL for interim tests for this functionality. | | |
| **…** | | |
| **Data Link Layer - IPv4** | | |
|  | R | Base Requirements |
|  | C1 | Is able to operate in Normal mode |
|  | C1 | Is able to operate in Foreign mode |
|  | C1 | Is able to operate in BBMD mode |
|  | C2 | Supports the Network Port object |
|  | O | Is able to initiate broadcast messages |
|  | O | Supports Network Port objects and DHCP |
|  | O | Supports Network Address Translation in BBMD mode |
|  | BTL-C3 | Supports NM-BBMDC-B |
|  | O4 | Supports configurable Out\_Of\_Service property |
|  | C5 | Supports hierarchical Network Port objects |
|  | C5 | Supports Non-hierarchical Network Port objects |
|  | C4,6 | Supports writable Network\_Number property |
|  | O4 | Supports the Routing\_Table property |
|  | O4 | Supports the Network Port Object Command property |
|  | O4,7 | Supports the DISCARD\_CHANGES command |
|  | O4,7 | Supports the RENEW\_FD\_REGISTRATION command |
|  | O4,7 | Supports the RENEW\_DHCP command |
|  | O4,7 | Supports the RESTART\_AUTONEGOTIATION command |
|  | O4,7 | Supports the RESTART\_PORT command |
|  | O7,8 | Supports the VALIDATE\_CHANGES command |
|  | O7,9,10 | Supports the RESTART\_DEVICE\_DISCOVERY command |
| 1 Either BBMD or both Normal and Foreign modes are required.  2 This option is required if the IUT claims Protocol\_Revision 17 or higher.  3 Required if the device is able to operate in BBMD mode.  4 Protocol\_Revision 17 or higher must be claimed.  5 At least one of these options is required if the IUT claims Protocol\_Revision 17 or higher.  6 Support for writable Network\_Number properties is required in routers and other IUTs that need to know the network number in order to operate.  7 At least one of these options is required if the Network Port object Command property is supported.  8 Protocol\_Revision 24 or higher must be claimed.  9 Protocol\_Revision 27 or higher must be claimed.  10 Contact BTL for interim tests for this functionality. | | |
| **Data Link Layer - ZigBee** | | |
|  | R | Base Requirements |
|  | C1 | Supports the Network Port object |
|  | O2 | Supports configurable Out\_Of\_Service property |
|  | C3 | Supports hierarchical Network Port objects |
|  | C3 | Supports Non-hierarchical Network Port objects |
|  | C2,4 | Supports writable Network\_Number property |
|  | O | Supports the Routing\_Table property |
|  | O | Supports the Network Port Object Command property |
|  | O2,5 | Supports the DISCARD\_CHANGES command |
|  | O2,5 | Supports the RESTART\_AUTONEGOTIATION command |
|  | O2,5 | Supports the RESTART\_PORT command |
|  | O5,6 | Supports the VALIDATE\_CHANGES command |
|  | O5,7,8 | Supports the RESTART\_DEVICE\_DISCOVERY command |
| 1 Required if the IUT claims Protocol\_Revision 17 or higher.  2 Protocol\_Revision 17 or higher must be claimed.  3 At least one of these options is required if the IUT claims Protocol\_Revision 17 or higher.  4 Support for writable Network\_Number properties is required in routers and other IUTs that need to know the network number in order to operate.  5 At least one of these options is required if the Network Port object Command property is supported.  6 Protocol\_Revision 24 or higher must be claimed.  7 Protocol\_Revision 27 or higher must be claimed.  8 Contact BTL for interim tests for this functionality. | | |
| **Data Link Layer - Ethernet** | | |
|  | R | Base Requirements |
|  | C1 | Supports the Network Port object |
|  | O2 | Supports configurable Out\_Of\_Service property |
|  | C3 | Supports hierarchical Network Port objects |
|  | C3 | Supports Non-hierarchical Network Port objects |
|  | C2,4 | Supports writable Network\_Number property |
|  | O | Supports the Routing\_Table property |
|  | O | Supports the Network Port Object Command property |
|  | O2,5 | Supports the DISCARD\_CHANGES command |
|  | O2,5 | Supports the RESTART\_AUTONEGOTIATION command |
|  | O2,5 | Supports the RESTART\_PORT command |
|  | O5,6 | Supports the VALIDATE\_CHANGES command |
|  | O5,7,8 | Supports the RESTART\_DEVICE\_DISCOVERY command |
| 1 Required if the IUT claims Protocol\_Revision 17 or higher.  2 Protocol\_Revision 17 or higher must be claimed.  3 At least one of these options is required if the IUT claims Protocol\_Revision 17 or higher.  4 Support for writable Network\_Number properties is required in routers and other IUTs that need to know the network number in order to operate.  5 At least one of these options is required if the Network Port object Command property is supported.  6 Protocol\_Revision 24 or higher must be claimed.  7 Protocol\_Revision 27 or higher must be claimed.  8 Contact BTL for interim tests for this functionality. | | |
| **Data Link Layer - ARCNET** | | |
|  | R | Base Requirements |
|  | C1 | Supports the Network Port object |
|  | O2 | Supports configurable Out\_Of\_Service property |
|  | C3 | Supports hierarchical Network Port objects |
|  | C3 | Supports Non-hierarchical Network Port objects |
|  | C2,4 | Supports writable Network\_Number property |
|  | O | Supports the Routing\_Table property |
|  | O | Supports the Network Port Object Command property |
|  | O2,5 | Supports the DISCARD\_CHANGES command |
|  | O2,5 | Supports the RESTART\_AUTONEGOTIATION command |
|  | O2,5 | Supports the RESTART\_PORT command |
|  | O5,6 | Supports the VALIDATE\_CHANGES command |
|  | O5,7,8 | Supports the RESTART\_DEVICE\_DISCOVERY command |
| 1 Required if the IUT claims Protocol\_Revision 17 or higher.  2 Protocol\_Revision 17 or higher must be claimed.  3 At least one of these options is required if the IUT claims Protocol\_Revision 17 or higher.  4 Support for writable Network\_Number properties is required in routers and other IUTs that need to know the network number in order to operate.  5 At least one of these options is required if the Network Port object Command property is supported.  6 Protocol\_Revision 24 or higher must be claimed.  7 Protocol\_Revision 27 or higher must be claimed.  8 Contact BTL for interim tests for this functionality. | | |
| **Data Link Layer - LonTalk** | | |
|  | R | Base Requirements |
|  | C1 | Supports the Network Port object |
|  | O2 | Supports configurable Out\_Of\_Service property |
|  | C3 | Supports hierarchical Network Port objects |
|  | C3 | Supports Non-hierarchical Network Port objects |
|  | C2,4 | Supports writable Network\_Number property |
|  | O | Supports the Routing\_Table property |
|  | O | Supports the Network Port Object Command property |
|  | O2,5 | Supports the DISCARD\_CHANGES command |
|  | O2,5 | Supports the RESTART\_AUTONEGOTIATION command |
|  | O2,5 | Supports the RESTART\_PORT command |
|  | O5,6 | Supports the VALIDATE\_CHANGES command |
|  | O5,7,8 | Supports the RESTART\_DEVICE\_DISCOVERY command |
| 1 Required if the IUT claims Protocol\_Revision 17 or higher.  2 Protocol\_Revision 17 or higher must be claimed.  3 At least one of these options is required if the IUT claims Protocol\_Revision 17 or higher.  4 Support for writable Network\_Number properties is required in routers and other IUTs that need to know the network number in order to operate.  5 At least one of these options is required if the Network Port object Command property is supported.  6 Protocol\_Revision 24 or higher must be claimed.  7 Protocol\_Revision 27 or higher must be claimed.  8 Contact BTL for interim tests for this functionality. | | |
| **Data Link Layer - IPv6** | | |
|  | R | Base Requirements |
|  | C1 | Is able to operate in Normal mode |
|  | C1 | Is able to operate in Foreign mode |
|  | C1 | Is able to operate in BBMD mode |
|  | R | Supports the Network Port object |
|  | O | Supports DHCP |
|  | O | Supports configurable Out\_Of\_Service property |
|  | C2 | Supports hierarchical Network Port objects |
|  | C2 | Supports Non-hierarchical Network Port objects |
|  | C3 | Supports writable Network\_Number property |
|  | O | Supports the Routing\_Table property |
|  | O | Supports the Network Port Object Command property |
|  | O4 | Supports the DISCARD\_CHANGES command |
|  | O4 | Supports the RENEW\_FD\_REGISTRATION command |
|  | O4 | Supports the RENEW\_DHCP command |
|  | O4 | Supports the RESTART\_AUTONEGOTIATION command |
|  | O4 | Supports the RESTART\_PORT command |
|  | O4,5 | Supports the VALIDATE\_CHANGES command |
|  | O4,6,7 | Supports the RESTART\_DEVICE\_DISCOVERY command |
| 1 Either BBMD or both Normal and Foreign modes are required.  2 At least one of these options is required.  3 Support for writable Network\_Number properties is required in routers and other IUTs that need to know the network number in order to operate.  4 At least one of these options is required if the Network Port object Command property is supported.  5 Protocol\_Revision 24 or higher must be claimed.  6 Protocol\_Revision 27 or higher must be claimed.  7 Contact BTL for interim tests for this functionality. | | |
| **Data Link Layer - Secure Connect** | | |
|  | R | Base Requirements |
|  | C1 | Is able to operate as a node without a local hub function |
|  | C1 | Is able to operate as a hub |
|  | O | Supports direct connections |
|  | O2 | Is able to accept direct connections |
|  | O2 | Is able to initiate direct connections |
|  | C3 | Supports the Network Port object |
|  | C4 | Contains a Network Port object with a Proprietary Network\_Type |
|  | C5 | Supports DM-TS-B |
|  | C5 | Supports DM-UTC-B |
|  | C5 | Supports Time Synchronization by Some Other Method |
|  | C6 | Supports B/SC over IPv4 |
|  | C6 | Supports B/SC over IPv6 |
|  | O7 | Supports configurable Out\_Of\_Service property |
|  | C7,8 | Supports hierarchical Network Port objects |
|  | C7,8 | Supports Non-hierarchical Network Port objects |
|  | C7,9 | Supports writable Network\_Number property |
|  | O7 | Supports the Routing\_Table property |
|  | O7 | Supports the Network Port Object Command property |
|  | O7,10 | Supports the DISCARD\_CHANGES command |
|  | O7,10 | Supports the RESTART\_PORT command |
|  | O~~7,~~10,11 | Supports the GENERATE\_CSR\_FILE command |
|  | O~~7,~~10,11 | Supports the VALIDATE\_CHANGES command |
|  | O10,12,13 | Supports the RESTART\_DEVICE\_DISCOVERY command |
| 1 At least one of these options must be supported.  2 At least one of these options must be supported if the device supports direct connections.  3 Required if the IUT claims Protocol\_Revision 24 or higher.  4 Required if the IUT claims a Protocol\_Revision greater than 16 and less than 24.  5 At least one of these options must be supported.  6 At least one of these options must be supported.  7 Protocol\_Revision ~~24~~17 or higher must be claimed.  8 At least one of these options must be supported.  9 Support for writable Network\_Number properties is required in routers and other IUTs that need to know the network number in order to operate.  10 At least one of these options is required if the Network Port object Command property is supported.  11 Protocol\_Revision 24 or higher must be claimed.  12 Protocol\_Revision 27 or higher must be claimed.  13 Contact BTL for interim tests for this functionality. | | |
| **Data Link Layer - Virtual Network** | | |
|  | R~~1~~ | Base Requirements |
|  | R | Supports GW-VN-B |
|  | C1 | Supports the Network Port object |
|  | C1,2 | Supports writable Network\_Number property |
|  | O1 | Supports configurable Out\_Of\_Service property |
|  | C1,3 | Supports hierarchical Network Port objects |
|  | C1,3 | Supports Non-hierarchical Network Port objects |
|  | O1 | Supports the Routing\_Table property |
|  | O1 | Supports the Network Port object Command property |
|  | O1,4 | Supports the DISCARD\_CHANGES command |
|  | O1,4 | Supports the RENEW\_FD\_REGISTRATION command |
|  | O1,4 | Supports the RESTART\_SLAVE\_DISCOVERY command |
|  | O1,4 | Supports the RENEW\_DHCP command |
|  | O1,4 | Supports the RESTART\_AUTONEGOTIATION command |
|  | O1,4 | Supports the RESTART\_PORT command |
|  | O4,5 | Supports the GENERATE\_CSR\_FILE command |
|  | O4,5 | Supports the VALIDATE\_CHANGES command |
| ~~1~~ ~~Contact BTL for interim tests for this functionality~~  1 Protocol\_Revision 17 or higher must be claimed.  2 The Network\_Number property shall be present and writable.  3 At least one of these options is required.  4 At least one of these options is required if the Network Port object Command property is supported.  5 Protocol\_Revision 24 or higher must be claimed. | | |
| … | | |

**11 Gateway**

| **Support** | **Listing** | **Option** |
| --- | --- | --- |
| **Gateway - Virtual Network - B** | | |
|  | R | Base Requirements |
|  | C1 | Supports Data Link Layer - Virtual Network |
| 1 Required if the device claims Protocol\_Revision 17 or higher. | | |
| **…** | | |

**14 BACnet Web Services**

| **Support** | **Listing** | **Option** |
| --- | --- | --- |
| **BACnet Web Services Client** | | |
|  | R1 | Base Requirements |
|  | O | Supports BACnet Energy Services Interface |
| 1 Contact BTL for interim tests for this functionality. | | |
| **…** | | |

**XX Authentication and Authorization**

| **Support** | **Listing** | **Option** |
| --- | --- | --- |
| **Authentication and Authorization - Dynamic Authorization Client - A** | | |
|  | R1 | Base Requirements |
| 1 Contact BTL for interim tests for this BIBB. | | |
| **Authentication and Authorization - Static Authorization Client - A** | | |
|  | R1 | Base Requirements |
| 1 Contact BTL for interim tests for this BIBB. | | |
| **Authentication and Authorization - Authorization Target - B** | | |
|  | R1 | Base Requirements |
| 1 Contact BTL for interim tests for this BIBB. | | |
| **Authentication and Authorization - Non-secure Authorization Target - B** | | |
|  | R1 | Base Requirements |
| 1 Contact BTL for interim tests for this BIBB. | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Author** | **Change** |
| 1.0 | 2024-12-20 | Michael Osborne | * Initial Release. Supports Test Package 26.0. |
| 2.0 | 2025-03-24 | Michael Osborne | * BTLWG-1683 - Add Virutual Data Link to the Test Package |
| 3.0 | 2025-07-24 | Michael Osborne | * BTLWG-1729 - B/SC Checklist for pre-PR24 NPOs Does not Allow routing * BTLWG-1733 - Test for src port <> dst port * BRLWG-1746 – Relinquish non-commandable properties * BTLWG-1760 – PR 27 to 30 Checklist Items |