

Protocol Implementation Conformance Statement

Date : 2/23/2021
Vendor Name : Radix IoT, LLC
Product Name : Mango
Product Model Number : 3.77 – 4.1.0
Application Software Version : 3.7.7
Firmware Revision : 3.7.7
BACnet Protocol Revision : 19

Product Description:

Mango is a flexible and industry agnostic software solution that provides an end-to-end solution for data acquisition from multiple sources through modules; organization of the data into a central repository, and visualization as needed either through a RestAPI or through integrated visualization tools. The Mango framework also allows for scaled multisite operation and aggregation. Mango is commonly found in modern Enterprise IIoT, building automation, and as a replacement for legacy SCADA solutions.

BACnet Standardized Device Profile (Annex L)

BACnet Cross-Domain Advanced Operator Workstation (B-XAWS)

BACnet Advanced Operator Work Station (B-AWS)

BACnet Operator Workstation (B-OWS)

BACnet Operator Display (B-OD)

BACnet Advanced Life Safety Workstation (B-ALSWS)

BACnet Advanced Life Safety Workstation (B-ALSWS)

BACnet Life Safety Workstation (B-LSWS)

BACnet Life Safety Annunciator Panel (B-LSAP)

BACnet Advanced Access Control Workstation (B-AACWS)

BACnet Access Control Workstation (B-ACWS)

BACnet Access Control Security Display (B-ACSD)

BACnet Building Controller (B-BC)

BACnet Advanced Application Controller (B-AAC)

BACnet Application Specific Controller (B-ASC)

BACnet Smart Actuator (B-SA)

BACnet Smart Sensor (B-SS)

BACnet Advanced Life Safety Controller (B-ALSC)

BACnet Life Safety Controller (B-LSC)

BACnet Advanced Access Control Controller (B-AACC)

- BACnet Access Control Controller (B-ACC)
- BACnet Router (B-RTR)
- BACnet Gateway (B-GW)
- BACnet Broadcast Management Device (B-BBMD)
- BACnet Access Control Door Controller (B-ACDC)
- BACnet Access Control Credential Reader (B-ACCR)
- BACnet General (B-GENERAL)

BACnet Interoperability Building Blocks Supported (Annex K)

Data Sharing	
DS-RP-A	ReadProperty-A
DS-RP-B	ReadProperty-B
DS-WP-A	WriteProperty-A
DS-WP-B	WriteProperty-B
DS-WPM-B	WritePropertyMultiple-B
Alarm & Event Managemet	
AE-N-A	Notification Internal-A
AE-V-A	View-A
Device & Network Management	
DM-DDB-A	Dynamic Device Binding-A
DM-DDB-B	Dynamic Device Binding-B
DM-DOB-B	Dyanmic Object Binding-B

Segmentation Capability

None

Standard Object Types Supported

Object Type	Dynamically Creatable	Dynamically Deletable
Device	No	No

Objects and Properties

Properties of objects supported by this device are tabulated below. The mandatory properties are marked as Required -R and Optional – O. Those properties that are writeable are suffixed with (W).

Device Object Properties

Properties	Required (R) / Optional(O)
Object_Identifier (W)	R
Object_Name (W)	R
Object_Type	R
System_Status (W)	R
Vendor_Name (W)	R
Vendor_Identifier (W)	R
Model_Name (W)	R
Firmware_Revision (W)	R
Application_Software_Version (W)	R
Protocol_Version (W)	R
Protocol_Revision (W)	R
Protocol_Services_Supported	R
Protocol_Object_Types_Supported	R
Object_List	R
Max_APDU_Length_Accepted (W)	R
Segmentation_Supported (W)	R
Max_Segments_Accepted (W)	O
Local_Time	O
Local_Date	O
UTC_Offset (W)	O
Daylight_Savings_Status (W)	O

Properties	Required (R) / Optional(O)
APDU_Segment_Timeout (W)	O
APDU_Timeout (W)	R
Number_Of_APDU_Retries (W)	R
Device_Address_Binding	R
Database_Revision (W)	R
Configuration_Files (W)	O
Last_Restore_Time (W)	O
Backup_Failure_Timeout (W)	O
Backup_Preparation_Time (W)	O
Restore_Preparation_Time (W)	O
Restore_Completion_Time (W)	O
Backup_And_Restore_State (W)	O
Last_Restart_Reason (W)	O
Time_Of_Device_Restart (W)	O
Restart_Notification_Recipients (W)	O
Property_List	R
Status_Flags	O
Event_State	O
Reliability	O

Data Link Layer Options

ARCNET (ATA 878.1), 2.5 Mb. (Clause 8)

ARCNET (ATA 878.1), EIA-485 (Clause 8), baud rate(s) 1200-115,400

BACnet IP, (Annex J)

BACnet IP, (Annex J), BACnet Broadcast Management Device (BBMD)

ACnet IP, (Annex J), Network Address Translation (NAT Traversal)

BACnet IPv6, (Annex U)

BACnet IPv6, (Annex U), BACnet Broadcast Management Device (BBMD)

BACnet/ZigBee (Annex O)

Ethernet, ISO 8802-3 (Clause 7)

LonTalk, ISO/IEC 14908.1 (Clause 11), medium: twisted pair

MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 76800, 115200

MS/TP slave (Clause 9), baud rate(s): 9600, 19200, 38400, 76800, 115200

Point-To-Point, EIA 232 (Clause 10), baud rate(s): Not Supported

Point-To-Point, modem, (Clause 10), baud rate(s): Not Supported

Device Address Binding

Is static device binding supported? This is currently necessary for two-way communication with MS/TP slaves and certain other devices.)

No

Networking Options

Router, Clause 6

Annex H, BACnet Tunnelling Router over IP

Character Sets Supported

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

ISO 10646 (UTF-8)

IBM™/Microsoft™ DBCS

ISO 8859-1

ISO 10646 (UCS-4)

ISO 10646 (UCS-2)

JIS X 0208

Non-Bacnet Equipment/ Networks Supported

If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports:

- ModBus RTU
- ModBus TCP/IP
- SNMP v1
- SNMP v2
- SNMP v3
- MQTT
- DNP3
- RestAPI