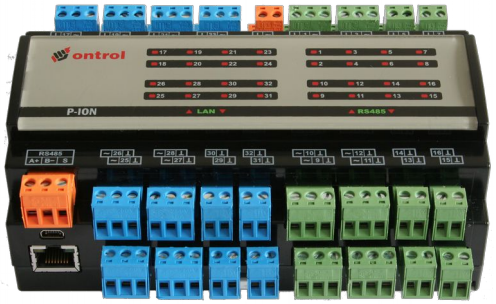
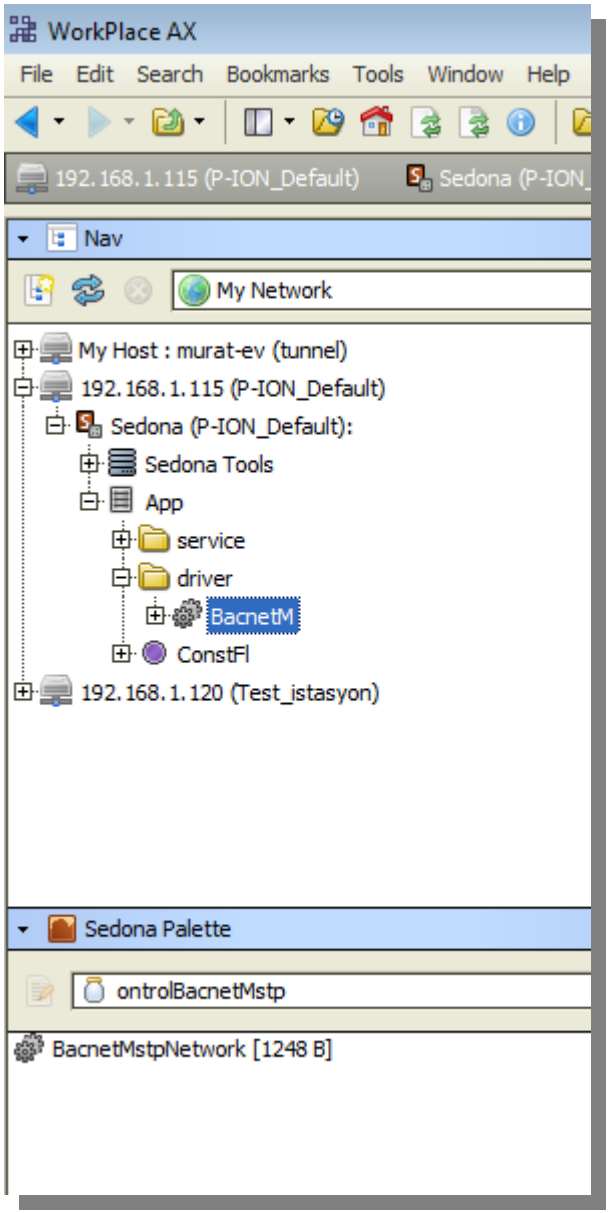


Using BACnet drivers on Ontrol Sedona products

(Features as of Mar 2015)



Ontrol Bacnet Drivers for Sedona

- ontrolBacnetIp
- ontrolBacnetMstp

OntrolBacnet DRIVERS REQUIRE MINIMAL CONFIGURATION

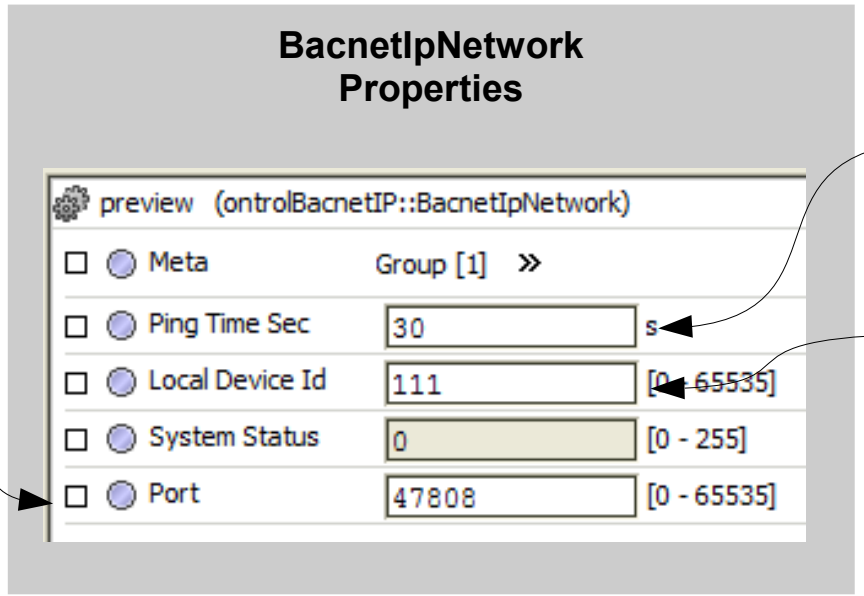
The Ontrol Bacnet palettes have only a single component.

You only need to add a BacnetIpNetwork or BacnetMstpNetwork to your app.

No need to add individual components for each value to be exposed over BACnet

Each and every slot in your app becomes magically available to your BACnet supervisor

Bacnet Network settings (IP)

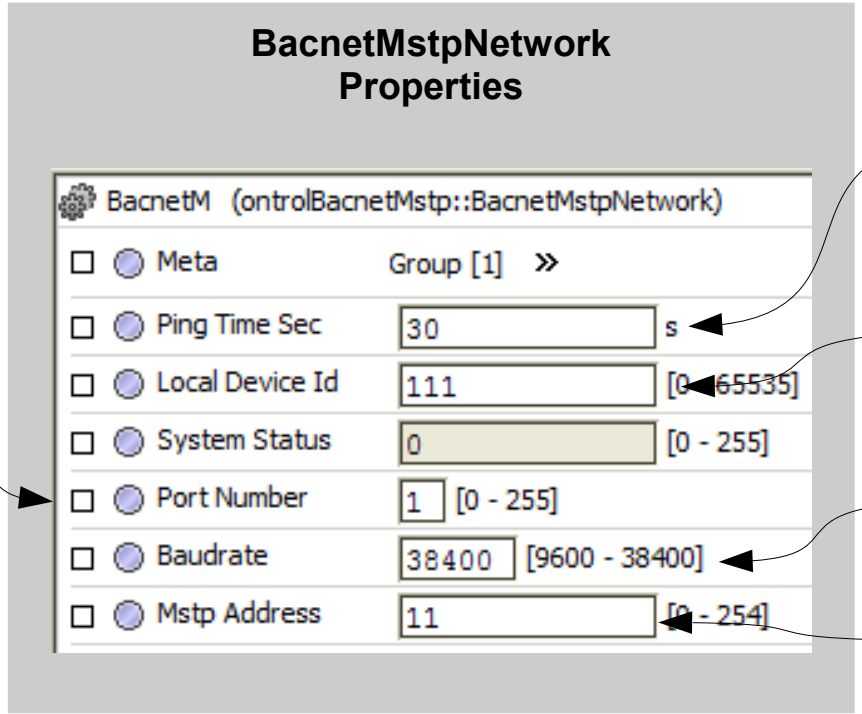


pingTime
not used

Local Device ID
Bacnet property

Port
Default 0xBAC0

Bacnet Network settings (MSTP)



Serial Port number
Set to:
1 for P-ION
1 for R-ION main bus
2 for R-ION aux. bus

pingTime
not used

Local Device ID
Bacnet property

Baud Rate

MSTP Address
address on RS485 bus

Sedona slots modeled as BACnet objects

This driver exposes each sedona slot in your app as an individual BACnet object.

Sedona component slots exposed as BACnet objects

ObjectType	=	AnalogValue / BinaryValue
ObjectInstance	=	1024 x (componentId + 1) + slotId
propertyId	=	“Present Value”
propertyArrayIndex	=	None or -1

Sedona components exposed as BACnet objects

DEPRECATED

ObjectType	=	Proprietary255
ObjectInstance	=	sedona component ID in the app
propertyId	=	“Present Value”
propertyArrayIndex	=	slotId on the sedona component

Using this modeling scheme, BACnet master devices can read from and write to any Sedona slot.

Adding a point in Niagara^{AX} BACnet driver

Points need to be added manually as the Niagara^{AX} BACnet driver doesn't handle discovery of proprietary objects very gracefully.

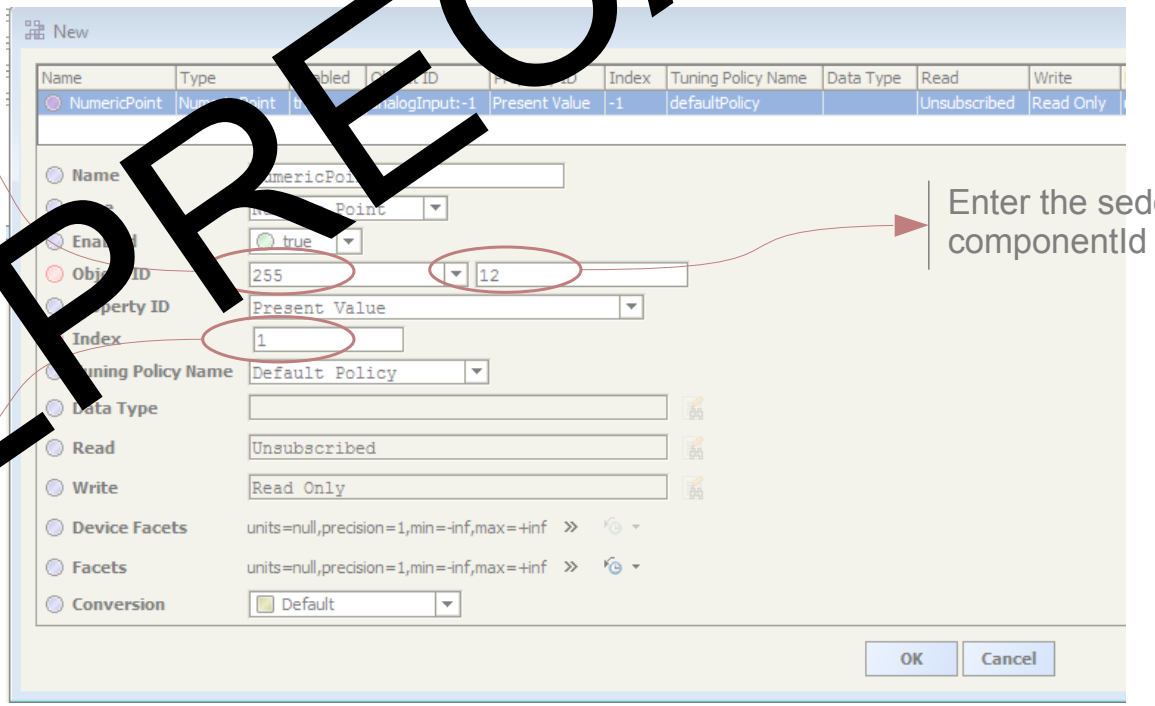
Simply click NEW button in the BacnetPointManager view.

DEPRECATED

Always type 255 as objectType instead of choosing from the pull-down box

Enter the sedona componentId

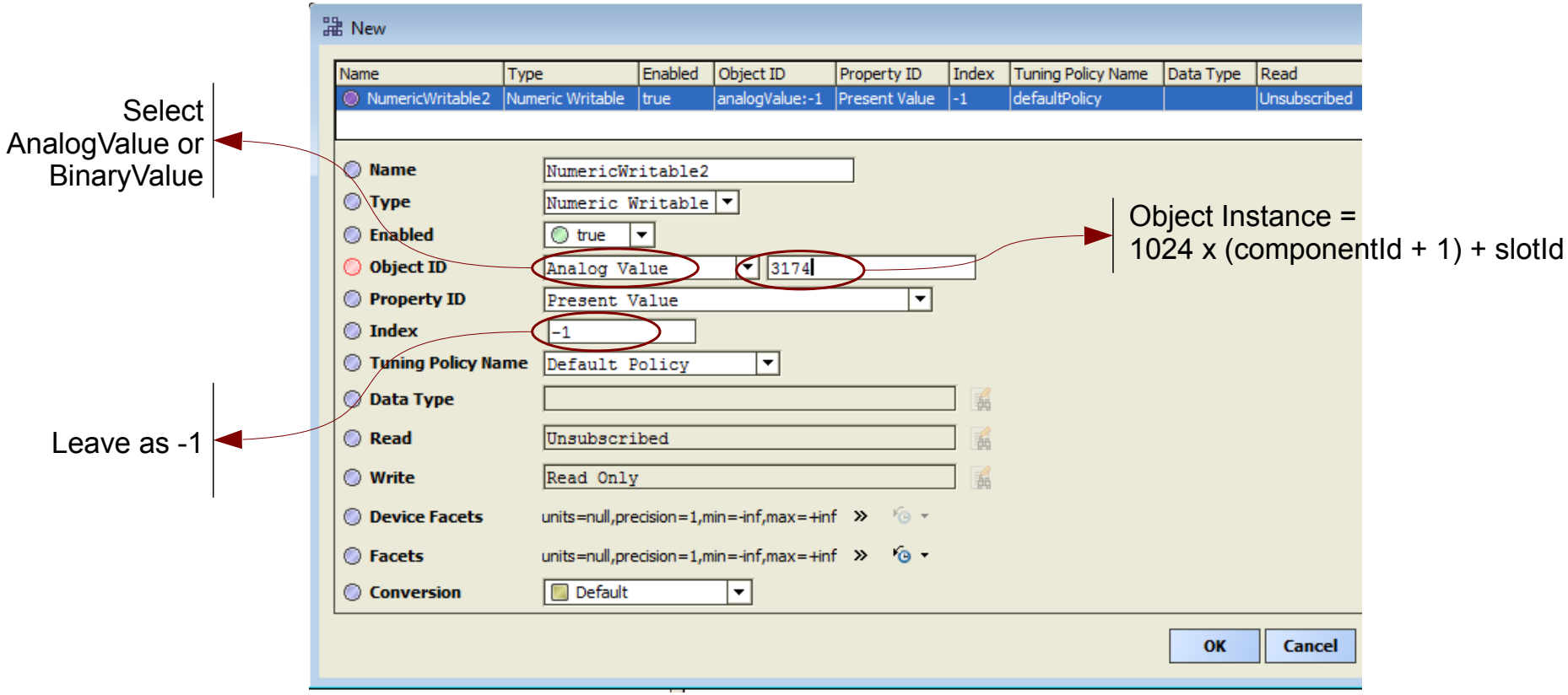
Enter the sedona slot number in the propertyArrayIndex field



Adding a point in Niagara^{AX} BACnet driver

Points need to be added manually as it is not possible to discover every component/every slot in the app from the Niagara^{AX} with slot names.

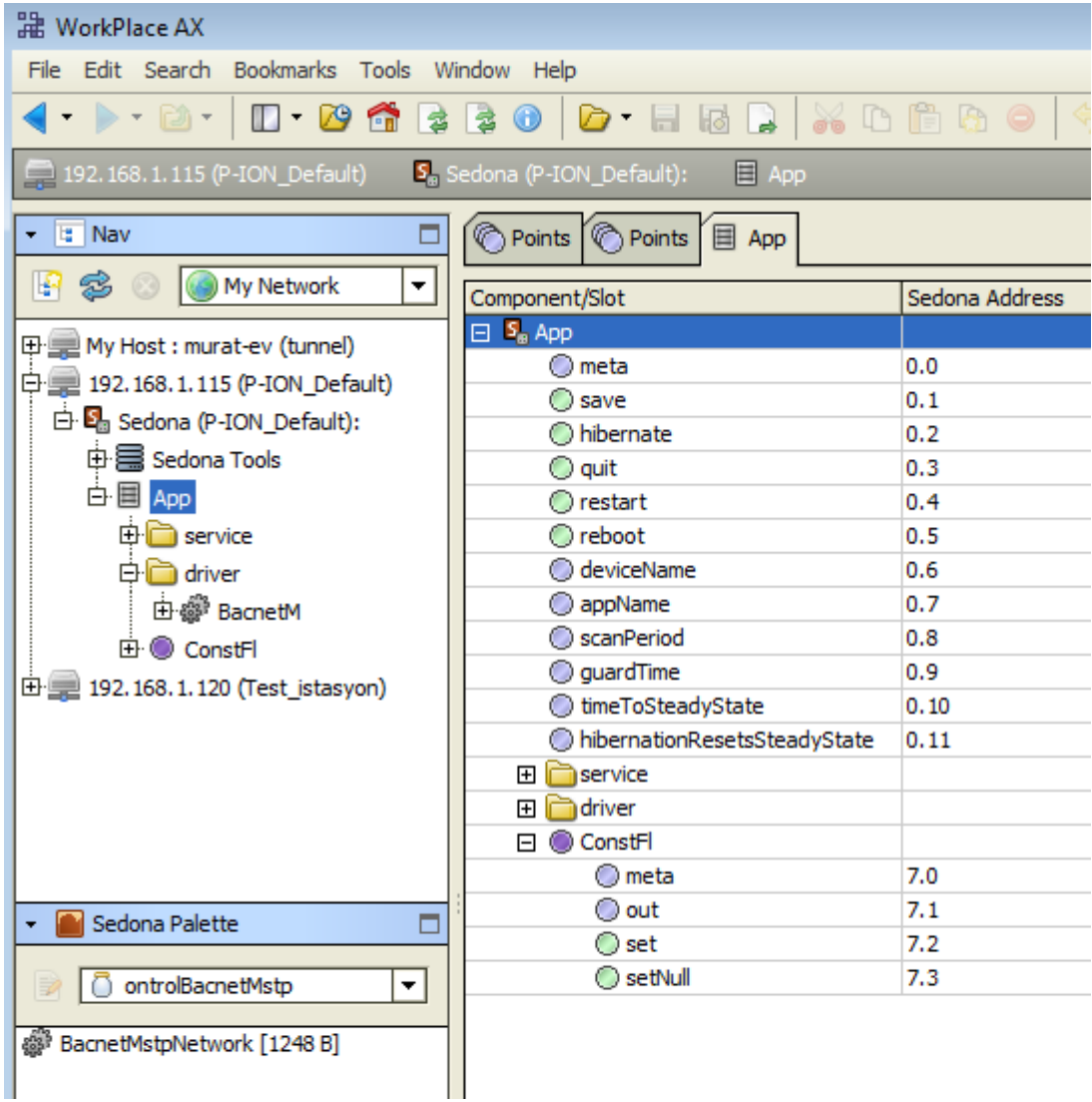
Simply click NEW button in the BacnetPoint Manager view.



Where do I find the sedona component ID & slot numbers in my app? (the easy way)

If you have the ontrolSedonaUtil module, simply double-click on the App header and navigate to any component/slot in your app.

Read the componentId and slotId in the right column.



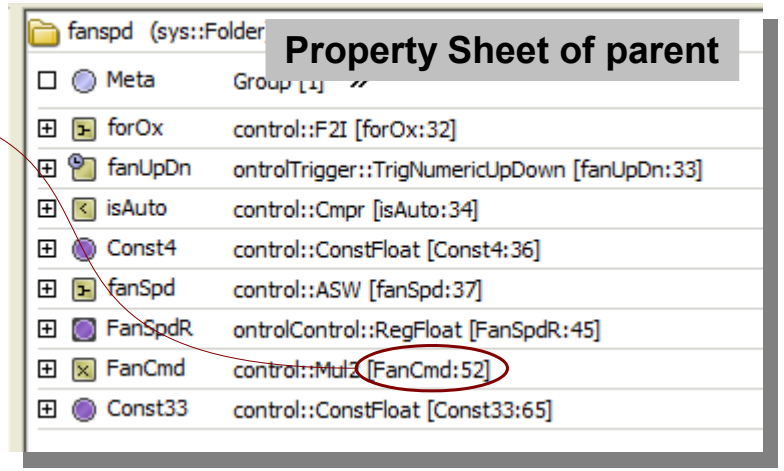
Where do I find the sedona component ID & slot numbers in my app? (the native AX method)

Determining ComponentId

Open the propertySheet view

for the parent of the component.

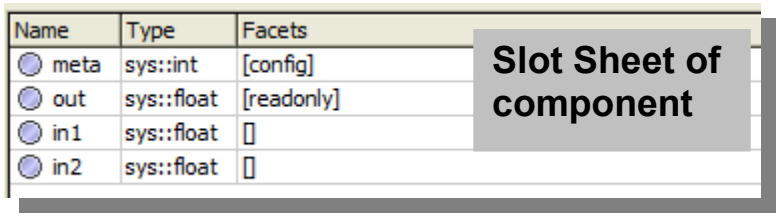
Read componentId in the appropriate line



Determining SlotId

Open the slotSheet view for the component.

Count down from the top, starting at zero.



BACnet Protocol Implementation Conformance Statement

Date: November 15, 2014
Vendor Name: Ontrol
Product Name: BACnet driver for Ontrol IP capable Sedona devices
Product Model Number: ontrolBacnet kit, compatible with PION & RION series controllers
Application Software Version: 1.1
Firmware Revision: 1.2.28
BACnet Protocol Revision: 1.40

Product Description:
This driver will run on any Ontrol IP based Sedona Framework device including the P-ION plant controller and the R-ION series room controllers.

BACnet Standardized Device Profile (Annex L):

- ☐ **BACnet Operator Workstation (B-OWS)**
- ☐ **BACnet Advanced Operator Workstation (B-AWS)**
- ☐ **BACnet Operator Display (B-OD)**
- ☐ **BACnet Building Controller (B-BC)**
- ☐ **BACnet Advanced Application Controller (B-AAC)**
- ☑ **BACnet Application Specific Controller (B-ASC)**
- ☐ **BACnet Smart Sensor (B-SS)**
- ☐ **BACnet Smart Actuator (B-SA)**

List all BACnet Interoperability Building Blocks Supported (Annex K):

Supported BIBBs	BIBB Name
DS-RP-B	Data Sharing – ReadProperty – B
DS-WP-B	Data Sharing – WriteProperty – B
DM-DDB-B	Device Management – Dynamic Device Binding - B

Segmentation Capability:

- ☐ Able to transmit segmented messages Window Size _____
- ☐ Able to receive segmented messages Window Size _____

Standard Object Types Supported:
No dynamically creatable or deletable types

Object Type	Optional Properties	Writable Properties	Notes
Device	Description	-	
Analog Value	Description	PresentValue	
Binary Value	Description	PresentValue	
Proprietary Type 255 (models any sedona component)	Description Present Value	Present Value	Modeling for sedona slot values ObjectType = Proprietary 255 ObjectInstance = sedonaCompId PropertyId = PresentValue PropertyArrayIndex = slotId

PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

Data Link Layer Options:

- ☑ BACnet IP, (Annex J)
- ☐ BACnet IP, (Annex J), Foreign Device
- ☐ ISO 8802-3, Ethernet (Clause 7)
- ☐ ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
- ☐ ATA 878.1, EIA-485 ARCNET (Clause 8), baud rate(s) _____
- ☐ MS/TP master (Clause 9), baud rate(s): _____
- ☑ MS/TP slave (Clause 9), baud rate(s): 9600 -19200 - 38400
- ☐ Point-To-Point, EIA 232 (Clause 10), baud rate(s):_____
- ☐ Point-To-Point, modem, (Clause 10), baud rate(s): _____
- ☐ LonTalk, (Clause 11), medium: _____
- ☐ BACnet/ZigBee (ANNEX O)
- ☐ Other: _____

Device Address Binding:

Is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.) ☐ Yes ☑ No

Networking Options:

- ☐ Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.
- ☐ Annex H, BACnet Tunneling Router over IP
- ☐ BACnet/IP Broadcast Management Device (BBMD)
  - Does the BBMD support registrations by Foreign Devices? ☐ Yes ☐ No
  - Does the BBMD support network address translation? ☐ Yes ☐ No

Network Security Options:

- ☑ Non-secure Device - is capable of operating without BACnet Network Security
- ☐ Secure Device - is capable of using BACnet Network Security (NS-SD BIBB)
  - ☐ Multiple Application-Specific Keys:
  - ☐ Supports encryption (NS-ED BIBB)
  - ☐ Key Server (NS-KS BIBB)

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-2)	☐ ISO 10646 (UCS-4)	☐ JIS X 0208