



INDUSTRIAL CONTROL COMMUNICATIONS, INC.

BACnet MS/TP Client Driver Manual



TABLE OF CONTENTS

- 1 BACnet MS/TP Client 2**
 - 1.1 Overview 2
 - 1.2 Client Settings 3
 - 1.3 Node Settings..... 3
 - 1.4 Device Object Settings..... 3
 - 1.4.1 OEM Settings (PicoPort/Mirius Only) 4
 - 1.4.2 Real-time Clock Settings (PicoPort/Mirius Only) 4
 - 1.5 Service Object Settings 5
 - 1.5.1 Analog Input Service Object Settings 5
 - 1.5.2 Analog Output Service Object Settings 7
 - 1.5.3 Analog Value Service Object Settings 8
 - 1.5.4 Binary Input Service Object Settings 9
 - 1.5.5 Binary Output Service Object Settings 10
 - 1.5.6 Binary Value Service Object Settings 11
 - 1.5.7 Multi-state Input Service Object Settings 12
 - 1.5.8 Multi-state Output Service Object Settings 14
 - 1.5.9 Multi-state Value Service Object Settings 15
 - 1.5.10 Device Binding Overview..... 17
 - 1.6 Relinquish Priority Trigger 17
 - 1.7 Diagnostics Object 17

1 BACnet MS/TP Client

1.1 Overview

This driver supports the BACnet MS/TP client protocol. The MS/TP client driver acts as a master on the network, meaning it is actively involved in token management.

Some notes of interest are:

- The driver supports reading and writing the present value property of BACnet objects residing in other devices on the network.
- The APDU Timeout, Number of APDU Retries, and Max Master properties of the Device object are writeable over the BACnet network.
- The Device Name, Device Instance, and Max Info Frames properties of the Device object are writeable over the BACnet network (PicoPort/Mirius only).
- Requests are fully configurable through service objects, targeting up to 32 unique destination device instances.
- Supported BACnet objects include:
 - Analog input (AI), output (AO) and value (AV)
 - Binary input (BI), output (BO) and value (BV)
 - Multi-state input (MSI), output (MSO) and value (MSV)
- Supports MS/TP baud rates from 9600 baud to 115200 baud.
- MS/TP static device binding is supported, allowing communication to MS/TP slave devices.
- Whenever a node is added to the project, its BACnet device object is always present and must be properly configured.
- Analog and multi-state objects are mapped in the database as either an 8-bit, 16-bit, or 32-bit value, depending on the data type selected. This means that each analog object in a service object consumes one, two, or four database addresses, respectively. For example, if a service object's starting analog output instance is "1", the number of instances is "5", the database address is "100", and the data type is "32-bit Unsigned", then AO1 through AO5 will be mapped at database addresses 100 through 119 (AO1 is mapped at address 100 through 103, AO2 is mapped at address 104 through 107, and so on).
- Binary objects are mapped on a bit-by-bit basis in the database starting with the least significant bit of the database byte. For example, if a service object's starting binary output instance is "1", the number of instances is "12", and the database address is "240", then BO1 through BO8 will be mapped to bit 0 through bit 7, respectively, at address 240, and BO9 through BO12 will be mapped to bit 0 through bit 3, respectively, at address 241. The remaining 4 bits in the byte at address 241 are unused.



1.2 Client Settings

Baud Rate

Selects the baud rate of the network.

Parity

Fixed at No Parity (1 Stop Bit).

APDU Timeout

Sets the time in milliseconds that the driver will wait for a response from a device after sending a request.

Number of APDU Retries

Sets the number of times that the driver will retry a request when a response is not received.

Scan Rate

This is the time in milliseconds the driver will wait between sending requests. This is a useful feature for certain devices that may not be capable of sustaining the maximum packet rates that the driver is capable of producing. The start time for this delay is taken with respect to the moment at which the driver is capable of sending the next packet (due to either reception or timeout of the previous request). If no additional time is required, setting this field to 0 instructs the driver to send its next request packet as soon as possible.

Max Master

Defines the highest allowable address (0...127) for MS/TP master nodes on the network. Any address higher than this will not receive the token from the driver. Note that this value must be greater than or equal to the driver's configured MAC Address(es). If the highest address on the network is unknown, set this field to 127.

Max Info Frames (PicoPort/Mirius Only)

Defines the maximum number of information frames the device may send before it must pass the token.

1.3 Node Settings

MAC Address

Defines the address (0...127) that the node will reside at on the network.

1.4 Device Object Settings

A Device Object is automatically added to every node, and cannot be removed. The Device Object contains several configurable fields that must be appropriately set for each device residing on a BACnet network.



Device Name

Defines the node's name. The device name must be unique across the entire BACnet network. Enter a string of between 1 and 16 characters in length.

Instance Number

Defines the node's instance number. The instance number must be unique across the entire BACnet network. Enter a value between 0...4194302 (0x0...0x3FFFFE).

1.4.1 OEM Settings (PicoPort/Mirius Only)

The following fields allow an OEM to configure the device to appear as their product on the BACnet network.

Vendor ID

Specifies the BACnet Vendor ID assigned to the OEM. The default value is 242, ICC's BACnet Vendor ID.

Vendor Name

Specifies the name of the OEM. The default value is "ICC, Inc."

Model Name

Specifies the model name of the OEM's product. The default value is the ICC product name.

1.4.2 Real-time Clock Settings (PicoPort/Mirius Only)

The real-time clock settings allow the device to utilize time and date information residing in the device's database. When enabled, the device will expose the Local Time, Local Date, UTC Offset, and Daylight Savings Status device object properties as well as support the Time Synchronization and UTC Time Synchronization services.

Note that the device itself does not have a real-time clock. It is expected that a host device populates the device's database with real-time clock data.

Enable RTC

Check this option to enable the real-time clock settings.

RTC Format

Select the real-time clock data format used to represent time and date information in the device's database. The available options are detailed below.

Date-Time Format

This option uses eight bytes to represent the date and time information. The meaning of each byte is described in Table 1 below.

Table 1: Date-Time Format

Byte Offset	Value	Description
0	Year	The year minus 1900
1	Month	The month (1...12, where January = 1)
2	Day	The day of the month (1...31)
3	Weekday	The day of the week (1...7, where Monday = 1)
4	Hour	The hour in the 24-hour system (0...23)
5	Minute	The minute of the hour (0...59)
6	Second	The second of the minute (0...59)
7	Hundredths	The fractional part of the second in hundredths of a second (0...99)

Unix Time Format

This option uses a single 32-bit value to represent both date and time information. The value is defined as the number of seconds that have elapsed since 00:00:00 Coordinated Universal Time (UTC), Thursday, January 1, 1970, not counting leap seconds.

RTC Database Address

Defines the starting address in the database where the date and time information is mapped.

Time Zone

Select the time zone for the location in which the device is installed.

Daylight Saving Time

Check this option to indicate whether daylight saving time is currently in effect at the location in which the device is installed.

1.5 Service Object Settings

A variety of different service object types are available. Each type targets a different class of BACnet object. For each service object, the driver will continually read the present value of the defined BACnet object within the service object from the designated device, storing the value(s) in the database (if the read function is enabled). When data in the database changes where the BACnet objects are mapped, a write request is generated to the designated device notifying it of the changed present value(s) of the BACnet object(s) (if the write function is available and enabled).

1.5.1 Analog Input Service Object Settings

Description

This 16-character (max) field is strictly for user reference: it is not used at any time by the driver.



Destination Device Instance

Defines the destination device instance of the BACnet device the driver will send requests to for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Note that the driver uses this value for dynamic device binding to determine the address of the destination device. If the destination device does not support dynamic device binding, then static device binding must be used.

Use Static Device Binding

This checkbox is used to manually define the destination device network address. This feature must be used for all MS/TP slave devices, and for any MS/TP master devices that do not support dynamic device binding. Refer to section 1.5.10 for more information.

Destination Address

This field is enabled only when the “Use Static Device Binding” checkbox is checked. This field is used to manually define the address (0...127) of the BACnet device that the driver should target for this service object. Refer to section 1.5.10 for more information.

Start Instance

Defines the starting instance number for a range of BACnet objects for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Number of Instances

Defines the number of BACnet objects to be targeted by this service object. Enter a value of 1 or more.

Database Address

Defines the database address where the first BACnet object value of this service object will be mapped. The configuration studio will not allow entry of a starting database address that will cause the service object to run past the end of the database. The highest valid database address, therefore, will depend on the targeted data type, as well as the number of items to be accessed.

Data Type

Specifies how the present value will be stored in the database for each BACnet object in this service object. This defines how many bytes will be allocated, whether the value should be treated as signed or unsigned, and whether the value should be interpreted as an integer or a floating point number. Select the desired data type from this dropdown menu.

Multiplier

The amount that associated network values are scaled by prior to being stored into the database or after being retrieved from the database. Upon retrieval from the database, raw data is multiplied by the multiplier to produce a network value (to be sent to the device). Similarly, network values (read from the device) are divided by the multiplier before being stored into the database.

Read Present Value

This checkbox is always checked, which indicates that reading is always enabled for this type of service object.

1.5.2 Analog Output Service Object Settings

Description

This 16-character (max) field is strictly for user reference: it is not used at any time by the driver.

Destination Device Instance

Defines the destination device instance of the BACnet device the driver will send requests to for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Note that the driver uses this value for dynamic device binding to determine the address of the destination device. If the destination device does not support dynamic device binding, then static device binding must be used.

Use Static Device Binding

This checkbox is used to manually define the destination device network address. This feature must be used for all MS/TP slave devices, and for any MS/TP master devices that do not support dynamic device binding. Refer to section 1.5.10 for more information.

Destination Address

This field is enabled only when the “Use Static Device Binding” checkbox is checked. This field is used to manually define the address (0...127) of the BACnet device that the driver should target for this service object. Refer to section 1.5.10 for more information.

Start Instance

Defines the starting instance number for a range of BACnet objects for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Number of Instances

Defines the number of BACnet objects to be targeted by this service object. Enter a value of 1 or more.

Database Address

Defines the database address where the first BACnet object value of this service object will be mapped. The configuration studio will not allow entry of a starting database address that will cause the service object to run past the end of the database. The highest valid database address, therefore, will depend on the targeted data type, as well as the number of items to be accessed.

Data Type

Specifies how the present value will be stored in the database for each BACnet object in this service object. This defines how many bytes will be allocated, whether the value should be treated as signed or unsigned, and whether the value should be interpreted as an integer or a floating point number. Select the desired data type from this dropdown menu.

Multiplier

The amount that associated network values are scaled by prior to being stored into the database or after being retrieved from the database. Upon retrieval from the database, raw data is multiplied by the multiplier to produce a network value (to be sent to the device). Similarly,



network values (read from the device) are divided by the multiplier before being stored into the database.

Read Present Value

Check this checkbox to enable reading (the service object will continuously read from the remote device unless a pending write exists).

Write Present Value

Check this checkbox to enable writing (when values encompassed by this service object change in the internal database, these changes will be written down to the targeted remote device).

Write Priority

This field is enabled only when the “Write Present Value” checkbox is checked. Defines the priority associated with writes for this service object. Select the desired priority from the dropdown menu.

1.5.3 Analog Value Service Object Settings

Description

This 16-character (max) field is strictly for user reference: it is not used at any time by the driver.

Destination Device Instance

Defines the destination device instance of the BACnet device the driver will send requests to for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Note that the driver uses this value for dynamic device binding to determine the address of the destination device. If the destination device does not support dynamic device binding, then static device binding must be used.

Use Static Device Binding

This checkbox is used to manually define the destination device network address. This feature must be used for all MS/TP slave devices, and for any MS/TP master devices that do not support dynamic device binding. Refer to section 1.5.10 for more information.

Destination Address

This field is enabled only when the “Use Static Device Binding” checkbox is checked. This field is used to manually define the address (0...127) of the BACnet device that the driver should target for this service object. Refer to section 1.5.10 for more information.

Start Instance

Defines the starting instance number for a range of BACnet objects for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Number of Instances

Defines the number of BACnet objects to be targeted by this service object. Enter a value of 1 or more.

Database Address

Defines the database address where the first BACnet object value of this service object will be mapped. The configuration studio will not allow entry of a starting database address that will cause the service object to run past the end of the database. The highest valid database address, therefore, will depend on the targeted data type, as well as the number of items to be accessed.

Data Type

Specifies how the present value will be stored in the database for each BACnet object in this service object. This defines how many bytes will be allocated, whether the value should be treated as signed or unsigned, and whether the value should be interpreted as an integer or a floating point number. Select the desired data type from this dropdown menu.

Multiplier

The amount that associated network values are scaled by prior to being stored into the database or after being retrieved from the database. Upon retrieval from the database, raw data is multiplied by the multiplier to produce a network value (to be sent to the device). Similarly, network values (read from the device) are divided by the multiplier before being stored into the database.

Read Present Value

Check this checkbox to enable reading (the service object will continuously read from the remote device unless a pending write exists).

Write Present Value

Check this checkbox to enable writing (when values encompassed by this service object change in the internal database, these changes will be written down to the targeted remote device).

Write Priority

This field is enabled only when the “Write Present Value” checkbox is checked. Defines the priority associated with writes for this service object. Select the desired priority from the dropdown menu.

1.5.4 Binary Input Service Object Settings

Description

This 16-character (max) field is strictly for user reference: it is not used at any time by the driver.

Destination Device Instance

Defines the destination device instance of the BACnet device the driver will send requests to for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Note that the driver uses this value for dynamic device binding to determine the address of the destination device. If the destination device does not support dynamic device binding, then static device binding must be used.



Use Static Device Binding

This checkbox is used to manually define the destination device network address. This feature must be used for all MS/TP slave devices, and for any MS/TP master devices that do not support dynamic device binding. Refer to section 1.5.10 for more information.

Destination Address

This field is enabled only when the “Use Static Device Binding” checkbox is checked. This field is used to manually define the address (0...127) of the BACnet device that the driver should target for this service object. Refer to section 1.5.10 for more information.

Start Instance

Defines the starting instance number for a range of BACnet objects for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Number of Instances

Defines the number of BACnet objects to be targeted by this service object. Enter a value of 1 or more.

Database Address

Defines the database address where the first BACnet object value of this service object will be mapped. The configuration studio will not allow entry of a starting database address that will cause the service object to run past the end of the database. The highest valid database address, therefore, will depend on the number of items to be accessed.

Data Type

Fixed at “1 Bit”.

Read Present Value

This checkbox is always checked, which indicates that reading is always enabled for this type of service object.

1.5.5 Binary Output Service Object Settings

Description

This 16-character (max) field is strictly for user reference: it is not used at any time by the driver.

Destination Device Instance

Defines the destination device instance of the BACnet device the driver will send requests to for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Note that the driver uses this value for dynamic device binding to determine the address of the destination device. If the destination device does not support dynamic device binding, then static device binding must be used.

Use Static Device Binding

This checkbox is used to manually define the destination device network address. This feature must be used for all MS/TP slave devices, and for any MS/TP master devices that do not support dynamic device binding. Refer to section 1.5.10 for more information.

Destination Address

This field is enabled only when the “Use Static Device Binding” checkbox is checked. This field is used to manually define the address (0...127) of the BACnet device that the driver should target for this service object. Refer to section 1.5.10 for more information.

Start Instance

Defines the starting instance number for a range of BACnet objects for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Number of Instances

Defines the number of BACnet objects to be targeted by this service object. Enter a value of 1 or more.

Database Address

Defines the database address where the first BACnet object value of this service object will be mapped. The configuration studio will not allow entry of a starting database address that will cause the service object to run past the end of the database. The highest valid database address, therefore, will depend on the number of items to be accessed.

Data Type

Fixed at “1 Bit”.

Read Present Value

Check this checkbox to enable reading (the service object will continuously read from the remote device unless a pending write exists).

Write Present Value

Check this checkbox to enable writing (when values encompassed by this service object change in the internal database, these changes will be written down to the targeted remote device).

Write Priority

This field is enabled only when the “Write Present Value” checkbox is checked. Defines the priority associated with writes for this service object. Select the desired priority from the dropdown menu.

1.5.6 Binary Value Service Object Settings

Description

This 16-character (max) field is strictly for user reference: it is not used at any time by the driver.

Destination Device Instance

Defines the destination device instance of the BACnet device the driver will send requests to for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Note that the driver uses this value for dynamic device binding to determine the address of the destination device. If the destination device does not support dynamic device binding, then static device binding must be used.

Use Static Device Binding

This checkbox is used to manually define the destination device network address. This feature must be used for all MS/TP slave devices, and for any MS/TP master devices that do not support dynamic device binding. Refer to section 1.5.10 for more information.

Destination Address

This field is enabled only when the “Use Static Device Binding” checkbox is checked. This field is used to manually define the address (0...127) of the BACnet device that the driver should target for this service object. Refer to section 1.5.10 for more information.

Start Instance

Defines the starting instance number for a range of BACnet objects for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Number of Instances

Defines the number of BACnet objects to be targeted by this service object. Enter a value of 1 or more.

Database Address

Defines the database address where the first BACnet object value of this service object will be mapped. The configuration studio will not allow entry of a starting database address that will cause the service object to run past the end of the database. The highest valid database address, therefore, will depend on the number of items to be accessed.

Data Type

Fixed at “1 Bit”.

Read Present Value

Check this checkbox to enable reading (the service object will continuously read from the remote device unless a pending write exists).

Write Present Value

Check this checkbox to enable writing (when values encompassed by this service object change in the internal database, these changes will be written down to the targeted remote device).

Write Priority

This field is enabled only when the “Write Present Value” checkbox is checked. Defines the priority associated with writes for this service object. Select the desired priority from the dropdown menu.

1.5.7 Multi-state Input Service Object Settings

Description

This 16-character (max) field is strictly for user reference: it is not used at any time by the driver.



Destination Device Instance

Defines the destination device instance of the BACnet device the driver will send requests to for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Note that the driver uses this value for dynamic device binding to determine the address of the destination device. If the destination device does not support dynamic device binding, then static device binding must be used.

Use Static Device Binding

This checkbox is used to manually define the destination device network address. This feature must be used for all MS/TP slave devices, and for any MS/TP master devices that do not support dynamic device binding. Refer to section 1.5.10 for more information.

Destination Address

This field is enabled only when the “Use Static Device Binding” checkbox is checked. This field is used to manually define the address (0...127) of the BACnet device that the driver should target for this service object. Refer to section 1.5.10 for more information.

Start Instance

Defines the starting instance number for a range of BACnet objects for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Number of Instances

Defines the number of BACnet objects to be targeted by this service object. Enter a value of 1 or more.

Database Address

Defines the database address where the first BACnet object value of this service object will be mapped. The configuration studio will not allow entry of a starting database address that will cause the service object to run past the end of the database. The highest valid database address, therefore, will depend on the targeted data type, as well as the number of items to be accessed.

Data Type

Specifies how the present value will be stored in the database for each BACnet object in this service object. This defines how many bytes will be allocated for the value. Select the desired data type from this dropdown menu.

Offset by One

When enabled, this option automatically offsets the object's present value property by one compared to the object's value in the database. This option is useful when mapping a multi-state object to an enumeration that starts at zero, as zero is an invalid value for a multi-state object's present value property.

The effect of the “Offset by One” field when reading: After the present value property of a multi-state object on a BACnet server is read, the network value is decremented by one before being stored into the device's database.



Read Present Value

This checkbox is always checked, which indicates that reading is always enabled for this type of service object.

1.5.8 Multi-state Output Service Object Settings

Description

This 16-character (max) field is strictly for user reference: it is not used at any time by the driver.

Destination Device Instance

Defines the destination device instance of the BACnet device the driver will send requests to for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Note that the driver uses this value for dynamic device binding to determine the address of the destination device. If the destination device does not support dynamic device binding, then static device binding must be used.

Use Static Device Binding

This checkbox is used to manually define the destination device network address. This feature must be used for all MS/TP slave devices, and for any MS/TP master devices that do not support dynamic device binding. Refer to section 1.5.10 for more information.

Destination Address

This field is enabled only when the “Use Static Device Binding” checkbox is checked. This field is used to manually define the address (0...127) of the BACnet device that the driver should target for this service object. Refer to section 1.5.10 for more information.

Start Instance

Defines the starting instance number for a range of BACnet objects for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Number of Instances

Defines the number of BACnet objects to be targeted by this service object. Enter a value of 1 or more.

Database Address

Defines the database address where the first BACnet object value of this service object will be mapped. The configuration studio will not allow entry of a starting database address that will cause the service object to run past the end of the database. The highest valid database address, therefore, will depend on the targeted data type, as well as the number of items to be accessed.

Data Type

Specifies how the present value will be stored in the database for each BACnet object in this service object. This defines how many bytes will be allocated for the value. Select the desired data type from this dropdown menu.

Offset by One

When enabled, this option automatically offsets the object's present value property by one compared to the object's value in the database. This option is useful when mapping a multi-state object to an enumeration that starts at zero, as zero is an invalid value for a multi-state object's present value property.

The effect of the "Offset by One" field when writing: Before the present value property of a multi-state object on a BACnet server is written, the raw data retrieved from the device's database is incremented by one to produce a network value.

The effect of the "Offset by One" field when reading: After the present value property of a multi-state object on a BACnet server is read, the network value is decremented by one before being stored into the device's database.

Read Present Value

Check this checkbox to enable reading (the service object will continuously read from the remote device unless a pending write exists).

Write Present Value

Check this checkbox to enable writing (when values encompassed by this service object change in the internal database, these changes will be written down to the targeted remote device).

Write Priority

This field is enabled only when the "Write Present Value" checkbox is checked. Defines the priority associated with writes for this service object. Select the desired priority from the dropdown menu.

1.5.9 Multi-state Value Service Object Settings

Description

This 16-character (max) field is strictly for user reference: it is not used at any time by the driver.

Destination Device Instance

Defines the destination device instance of the BACnet device the driver will send requests to for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Note that the driver uses this value for dynamic device binding to determine the address of the destination device. If the destination device does not support dynamic device binding, then static device binding must be used.

Use Static Device Binding

This checkbox is used to manually define the destination device network address. This feature must be used for all MS/TP slave devices, and for any MS/TP master devices that do not support dynamic device binding. Refer to section 1.5.10 for more information.

Destination Address

This field is enabled only when the "Use Static Device Binding" checkbox is checked. This field is used to manually define the address (0...127) of the BACnet device that the driver should target for this service object. Refer to section 1.5.10 for more information.

Start Instance

Defines the starting instance number for a range of BACnet objects for this service object. Enter a value between 0...4194302 (0x0...0x3FFFFE).

Number of Instances

Defines the number of BACnet objects to be targeted by this service object. Enter a value of 1 or more.

Database Address

Defines the database address where the first BACnet object value of this service object will be mapped. The configuration studio will not allow entry of a starting database address that will cause the service object to run past the end of the database. The highest valid database address, therefore, will depend on the targeted data type, as well as the number of items to be accessed.

Data Type

Specifies how the present value will be stored in the database for each BACnet object in this service object. This defines how many bytes will be allocated for the value. Select the desired data type from this dropdown menu.

Offset by One

When enabled, this option automatically offsets the object's present value property by one compared to the object's value in the database. This option is useful when mapping a multi-state object to an enumeration that starts at zero, as zero is an invalid value for a multi-state object's present value property.

The effect of the "Offset by One" field when writing: Before the present value property of a multi-state object on a BACnet server is written, the raw data retrieved from the device's database is incremented by one to produce a network value.

The effect of the "Offset by One" field when reading: After the present value property of a multi-state object on a BACnet server is read, the network value is decremented by one before being stored into the device's database.

Read Present Value

Check this checkbox to enable reading (the service object will continuously read from the remote device unless a pending write exists).

Write Present Value

Check this checkbox to enable writing (when values encompassed by this service object change in the internal database, these changes will be written down to the targeted remote device).

Write Priority

This field is enabled only when the "Write Present Value" checkbox is checked. Defines the priority associated with writes for this service object. Select the desired priority from the dropdown menu.

1.5.10 Device Binding Overview

Dynamic Device Binding

In order for a BACnet client to request data from other devices, it must first learn what addresses those devices are located at on the network. BACnet client devices can use dynamic device binding to learn the addresses of other devices on the network. This is done by sending a “Who-Is” request on the network. Any devices whose device instance falls within the range of the “Who-Is” request will respond with an “I-Am” response, informing the client of what network address its device instance is associated with. By default, the driver will use dynamic device binding if a service object is not configured to use static device binding.

Static Device Binding

Not all BACnet devices support dynamic device binding. If the driver needs to request data from an MS/TP slave, or an MS/TP master that doesn’t support dynamic device binding, then static device binding must be used. Static device binding allows the user to manually define the information that the client would normally acquire using dynamic device binding. The only additional information the user must define is the network address of the destination device. This feature may also be useful if the destination device instance is unknown, but the network address of the device is known. In this case, an arbitrary device instance may be used (as long as it does not conflict with any other device instances in other defined service objects) and the destination address must be set to the network address of the device.

1.6 Relinquish Priority Trigger

Each commandable service object, i.e. Output and Value service objects, can optionally include a relinquish priority trigger to relinquish a previously written value. The trigger is assigned to a byte in the database. When a write is detected at this database address, the trigger value is reset to 0, and a relinquish priority request is sent to all objects defined in the service object.

Trigger Address

Specifies the database address to use to trigger the relinquish priority request.

1.7 Diagnostics Object

Each service object can optionally include a diagnostics object for debugging and diagnostics.

Diagnostics Database Address

Enter the database address at which to store the diagnostics information.



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