BACnet: Writing of a Property (PresentValue)

The BACnet server from the FAQ BACnet: Cyclic Reading of a Property is used as the server here. (ii) Reduce this one to reading the analog value. BACNetServerOnRaspberry_WriteProperty.project - CODESYS File Edit View Project Build Online Debug Tools Window Help Devices ↓ ₽ × Device PLC_PRG X BACNetServerOnRaspberry_WriteProperty Ŧ Device.Application.PLC_PRG 🖻 😏 🔟 Device [connected] (CODESYS Control for Ra Value Expression Туре 🖻 🗐 PLC Logic IrValue LREAL 0 🖹 💮 Application [run] 🎁 Library Manager PLC_PRG (PRG) E Task Configuration 1 IrValue 0 := BACnet_Analog_Value.PresentValue RETURN 🖮 🍪 MainTask (IEC-Tasks) PLC_PRG 😔 💭 BACnet_Server (BACnet Server) 😌 🌍 BACnet_Analog_Value (BACnet Ana 😏 🏅 SoftMotion General Axis Pool 1

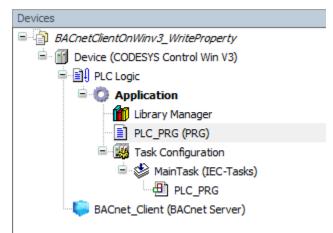
Requirements for the server and client

Check that the following entries are present in the file CODESYSControl.cfg.

- Integration of the BACnet component: [ComponentManager]
- Component.[n+1]=CmpBACnet
 Integration of the INI file of the BACnet stack (pay attention to the syntax): [CmpBACnet] IniFile=bacstacd.ini

BACnet client project

- Create a "Standard project" and select CODESYS Control Win V3 as the device.
- Define the target system by means of the network scan (see BACnet server).
- Insert a "BACNet Server" object into the device tree and rename it as "BACnet_Client".



Open the Library Manager and add the following libraries: CmpBACnet

Library Manager 🗙						
🔁 Add library 🗙 Delete library 🛛 🕾 Properties 📷 Details 🛛 🛤 Placeholders 🛛 🎁 Library repository						
Name	Namespace	Effective version 3.5.14.0				
🗐 👓 🚥 3SLicense = 3SLicense, 3.5.14.0 (3S - Smart Software Solutions GmbH)	_3S_LICENSE					
BACnet = BACnet, 1.2.1.0 (3S - Smart Software Solutions GmbH)	BACnet	1.2.1.0				
BreakpointLogging = Breakpoint Logging Functions, 3.5.5.0 (3S - Smart Software Solutions GmbH)	BPLog	3.5.5.0				
ା ୁ ଆ CmpBACnet = CmpBACnet, 3.5.14.0 (3S - Smart Software Solutions GmbH)	CmpBACnet	3.5.14.0				
in•∞ IoStandard = IoStandard, 3.5.13.0 (Sys m)	IoStandard	3.5.13.0				
↔ Standard = Standard, 3.5.14.0 (System)	Standard	3.5.14.0				

• Edit the PLC_PRG POU as follows:

Declaration	
<pre>VAR fbWriteProperty : BACnet.BACnetClientWriteProperty; writePropVal : BACnet.CmpBACnet.IEC_BACNET_REAL := 16.34; writePropCont : BACnet.CmpBACnet.IEC_BACNET_PROPERTY_CONTENTS; xWriteExecute : BOOL; writePrio : CmpBACnet.IEC_BACNET_SIGNED := 16; xInitDone : BOOL := FALSE; END_VAR</pre>	

Implemen tation

```
IF NOT xInitDone THEN
    fbWriteProperty.RegisterToServer(BACnet_Client);
    fbWriteProperty(dwTargetDeviceNumber := 718,
                   objType := BACnet.CmpBACnet.IEC_BACNET_OBJECT_TYPE.OBJ_ANALOG_VALUE, objInst :
= 1,
                   propID := BACnet.CmpBACnet.IEC_BACNET_PROPERTY_ID.PROP_PRESENT_VALUE);
   xInitDone := TRUE;
ELSE
        writePropCont.buffer.pBuffer := ADR(writePropVal);
   writePropCont.buffer.nBufferSize := SIZEOF(writePropVal);
   writePropCont.nElements := 1;
   writePropCont.tag := BACnet.CmpBACnet.IEC_BACNET_DATA_TYPE.DATA_TYPE_REAL;
    fbWriteProperty(xExecute := xWriteExecute,
                   propertyContents := writePropCont,
                   nWritePriority := writePrio);
END_IF
```

• Download the project to the controller and set the xWriteExecute variable to TRUE.

The value is transferred to the server.

Devices 👻 🕂 🗙	Library Manager	PLC_PRG X PLC_PRG X				
BACnetClientOnWinv3_WriteProperty	Device_Application.PLC	PRG				
Device [connected] (CODESYS Control Win V3	In V3 Expression Type Vali				Value	Prepared
PLC Logic				BACnet.BACnetClien	Turuc	Treporce
Constant Application [run] Library Manager	writePropVal			REAL	16.34	
PLC_PRG (PRG)	🖲 🌵 writePropCont			BACnet.CmpBACnet		
Task Configuration	xWriteExecute			BOOL	TRUE	
😑 🥩 MainTask (IEC-Tasks)	writePrio			DINT	16	
- ILC_PRG SACnet Client (BACnet Server)	xInitDone			BOOL	TRUE	
	1 2 fbWrite 4 5 fbWrite 6 xInitDo 7 ELSE 8 writePr 10 writePr 11 writePr 12 writePr	propII(<u>ROP.PRESE</u>) : in TRUE : regoont.buffer.pBuffer <u>IMACC53</u> ropCont.blementa <u>I</u> : ropCont.tallementa <u>I</u> : Property(xExecute <u>INUE</u> : = XAT propertyContents :- nKritePriority <u>15</u>	78 :- 718, - BACnet. CDREARCH.IEC_BACHET_ONDE - BACnet CDREARCHET.IEC_BACHET_PROPE ADR (writePropVal	<pre>RTY_ID.PROP_PRESENT_VALUE);</pre>	Inst <u>1</u>	:= 1,
Devices	→ 井 X / 🕅	Device	×			
BACNetServerOnRaspberry_WritePro	perty					
Device [connected] (CODESYS		vice.Application.PLC_PRG				
PLC Logic		ession	Туре	Value		
Application [run]		IrValue	LREAL	16.34000015258	37891	
Library Manager						
PLC PRG (PRG)						
			78			
E I Task Configuration		1 IrValue 16.3 >	:= BACnet_Analog_Value.Pr	esentValue 16.3 🕨 ;	RETURN	
🖹 🗇 MainTask (IEC-Ta	asks)					
PLC_PRG						
🖶 😔 😳 BACnet_Server (BACnet S	erver)					
G BACnet_Analog_Value	e (BACnet Analo					

The *PresentValue* property is written with priorities from 1 to 16, where 16 is the lowest.

When you write a value with a higher priority to the server, it is retained until it is deleted or overwritten by an even higher priority.

During the delete operation, the value of the highest set priority is then output as PresentValue.

A priority is deleted by writing to it with the data type *DATA_TYPE_NULL*.

BACnetClientOnWinv3_WriteProperty	Library Manager PLC_PRG X Device Section 2 PROGRAM PLC PRG		
Gevice (CODESYS Control Win V3)			
E B PLC Look	3 fbWriteProperty : BACnet.BACnetClientWriteProperty;		
= 🙆 Application	4 writePropVal : BACnet.CmpBACnet.IEC BACNET REAL := 16.34;		
Library Manager	5 writePropCont : BACnet.CmpBACnet.IEC BACNET PROPERTY CONTENTS;		
PLC PRG (PRG)	6 xWriteExecute : BOOL;		
	7 writePrio : CmpBACnet.IEC BACNET SIGNED := 16;		
😑 饠 Task Configuration	xInitDone : BOOL := FALSE;		
😑 🕼 MainTask (IEC-Tasks)	e e		
DIC_PRG	10 xDelete : BOOL;		
BACnet_Client (BACnet Server)	11 END VAR		
	I IF NOT XInitDone THEN		
	2 fbWriteProperty.RegisterToServer(BACnet_Client);		
	3 fbWriteProperty(dwTargetDeviceNumber := 718,		
	4 objType := BACnet.CmpBACnet.IEC_BACNET_OBJECT_TYPE.OBJ_ANALOG_VALUE, objInst :=		
	5 propID := BACnet.CmpBACnet.IEC_BACNET_PROPERTY_ID.PROP_PRESENT_VALUE);		
	6 xInitDone := TRUE;		
	E 7 ELSE		
	8 writePropCont.buffer.pBuffer := ADR(writePropVal);		
	9 writeFropCont.buffer.nBufferSize := SIZEOF(writeFropVal);		
	10 writePropCont.nElements := 1;		
	11 writePropCont.tag := BACnet.CmpBACnet.IEC_BACNET_DATA_TYPE.DATA_TYPE_REAL;		
	12		
	E 13 fbWriteProperty(xExecute := xWriteExecute,		
	14 propertyContents := writePropCont,		
	15 nWritePriority := writePrio);		
	16		
	E 17 IF xDelete THEN		
	<pre>18 xDelete := FALSE;</pre>		
	<pre>19 writePropVal := 0.0;</pre>		
	<pre>20 writePropCont.buffer.pBuffer := ADR(writePropVal);</pre>		
	21 writePropCont.buffer.nBufferSize := SIZEOF(writePropVal);		
	<pre>22 writePropCont.nElements := 1;</pre>		
	23 writePropCont.tag := BACnet.CmpBACnet.IEC_BACNET_DATA_TYPE.DATA_TYPE.NULL;		
	24		
	E 25 fbWriteProperty(xExecute := xWriteExecute,		
	26 propertyContents := writePropCont,		
	27 nWritePriority := writePrio);		
	28 END_IF		
	29 END_IF		