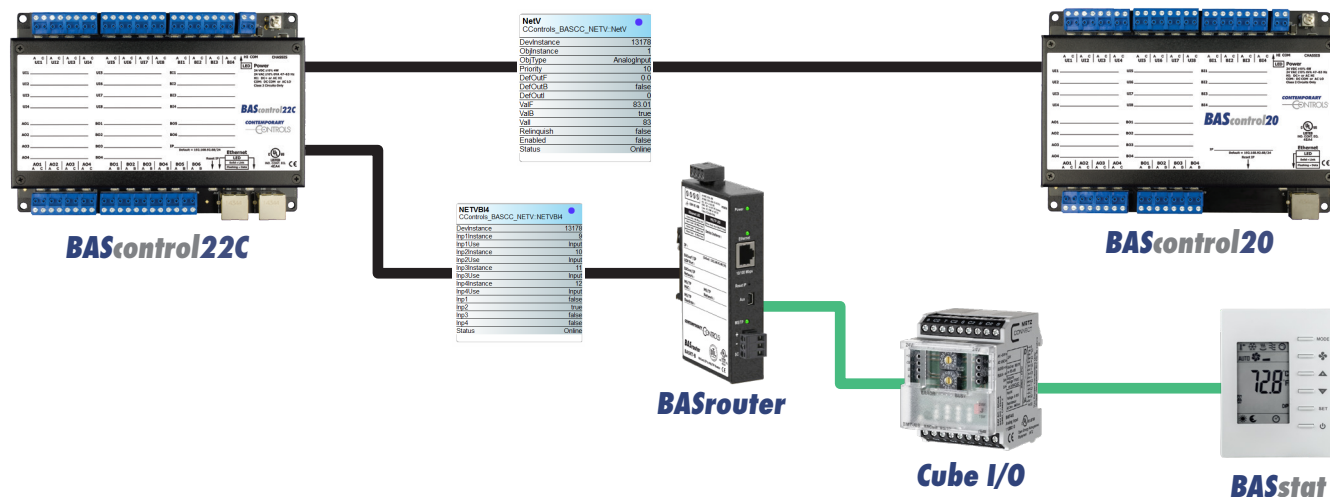




BAScontrol 22C– Setup BACnet Client Servers and Points



The BAScontrol series of BACnet compliant controllers with B-ASC device profile use a direct Ethernet connection to IP networks. The BAScontrol22C is a BACnet/IP server and also provides some BACnet/IP client capability which allows the user to read and/or write points served up by devices on the BACnet internetwork. Most BACnet devices are BACnet servers which do not initiate requests to other devices other than an initial “I-Am” request when first joining the network. BACnet client devices do initiate requests and expect BACnet servers to respond to requests and data is exchanged. BACnet servers serve up their points to BACnet clients. Writable BACnet server device points can also be written to by BACnet clients. The BAScontrol22C supports BACnet objects of types: AI, BI, AO, BO, AV, and BV. The BAScontrol22C is capable of directly reading from and writing to BACnet/IP devices on the network connected to one of its Ethernet ports by the use of NetV (Network Variable) Sedona components. In addition, with a BACnet router in place (such as [BASRT-B](#) or [BASRTLX-B](#)), the BAScontrol22C is capable of reading from and/or writing to BACnet MS/TP devices which are being routed to BACnet/IP. With the use of a BASGLX-M1, Modbus RTU or TCP/IP points can also be read or written to by the BAScontrol22C. The points obtained over the BACnet network can be used

in the BAScontrol22C’s Sedona wire sheet application logic, become scaled, calculated, and/or converted to different data types, written to other BACnet devices, served up to BACnet supervisory controllers and operator workstations by using Virtual Components, as well as be monitored, displayed, or exposed for configuration on BAScontrol22C’s web page by the use of Web Components. Thanks to its Real Time Clock, the BAScontrol22C can provide a time synchronization service to other BACnet devices.

Reading points over BACnet networks can be very useful in several applications such as zone temperature averaging, reading an outside air temperature from a BACnet networked sensor device, reading zone temperature, humidity, CO2 PPM, and other comfort parameters from a BACnet networked wall setter/thermostat device, or exchanging control values/points with another BACnet controller or supervisory controller/workstation. In applications which do not require a complete BMS/head end, the BAScontrol22C can be used to read and write points among BACnet devices. In remote access applications, by employing Remote Access VPN IP routers (such as [EIPR-V](#), [EIGR-V](#), or EICR), the BAScontrol Client can obtain BACnet points from devices on a remote BACnet network.

BAScontrol22C - Device System Configuration

To set up connection between the BAScontrol22C client and a BACnet server device(s), first you need to integrate the BAScontrol22C into your network by configuring its IP and BACnet device settings in accordance with your existing IP and BACnet network settings. Then, the BACnet Server device(s) parameters can be configured from the BAScontrol22C web page.

1. Accessing Configuration

To configure network settings for the BAScontrol22C Client controller, go to its web page by typing the controller's IP address in a web browser. The default IP address is 192.168.92.68 with a subnet mask of

255.255.255.0 and credentials of admin for user name and admin for password. More details on initial access to the controller and setting up you PC's LAN card are available in the Installation Guide supplied in the box as well as on our website.

- 1a Click on System Config button on the main web page to access the BAScontrol22C configuration page. Changes to System Configuration page only take effect after a reboot of the BAScontrol22C. Once configured, the controller can be restarted by pressing Restart Controller button on the main page.

The screenshot shows the BAScontrol22C web interface. At the top, there are four main sections: Universal Inputs, Binary Inputs, Analog Outputs, and Binary Outputs. Each section contains a list of inputs/outputs with their current values and checkboxes. Below these sections is a navigation bar with buttons for System Config, System Status, Set Time, Virtual Points, Web Components, BACnet Utility, and Restart Controller. The System Config button is highlighted with a blue circle and a label '1a'. Below the navigation bar is a status bar with 'Auto Refresh OFF' and copyright information.

2. IP configuration

The BAScontrol22C can be assigned a Static IP address or it could automatically obtain an IP address from a DHCP server on the network by using DHCP mode in IP Mode drop-down selection available in System Configuration web page. Dynamic Host Configuration Protocol (DHCP) is a service running on devices such as IP routers or servers on the local IP network. Dynamic IP addresses are issued to devices on the network using a periodic leasing system, meaning that the leased IP address is only active for a limited time. If the lease time expires, the BAScontrol22C will automatically request a new lease from the DHCP server. Sometimes, this means the

BAScontrol22C will receive a new IP address, especially if the controller was unplugged from the IP network between leases. As a BACnet client device on the network, it is recommended to assign the BAScontrol22C a Static IP address, in order to ensure a stable connection in the long run. Static IP addresses are fixed and do not change unless you change them manually. Static IP is selected by default in IP Mode drop-down selection on the System Configuration web page.

- 2a The BAScontrol22C supports IPv4 TCP/IP addressing. An IPv4 IP address is expressed by four numbers referred to as octets and separated by dots/periods.

For example: 10.0.13.102

The first 3 octets of an IP address are used as the network address, and the last octet is used as the Host address. If you take the example 10.0.13.102 and divide it into these two parts you get the following:

10.0.13. (Network) .102 (Host)

-or-

10.0.13.0 - Network Address -and- 0.0.0.102 - Host Address.

- 2b The second parameter required by IPv4 addressing is the Subnet Mask. The subnet mask is used by the TCP/IP protocol to determine

whether a host is on the local subnet or on a remote network. A Subnet Mask (Netmask) is expressed with the same 4-octet format as an IP address and allows the network and host portions of the IP address to be separated. Depending on the Network Class your network administrator has chosen, the Netmask may vary. The most common classes A, B, and C, and each of these address classes has a different default Netmask depending on the number of Hosts allowed on the network by the network administrator.

- 2c If the BAScontrol22C needs to communicate with a host on another network, or connect to the Internet (such as when obtaining time and date

IP Configuration		BACnet Device Configuration	
IP Mode	Static IP	Device Object Name	BAScontrol20C
IP Address	10.0.13.102	Device Instance	213102
Netmask	255.255.240.0	UDP Port	47808
Gateway	10.0.0.3	BBMD IP Address	0.0.0.0
Primary DNS	10.0.0.6	BBMD Reg Time	100
Secondary DNS	8.8.8.8	Time Transmissions (Min)	0
		<input type="checkbox"/> BIP	
BACnet Client		Enable Protocol	
Poll Delay (mS)	1000	BACnet/IP <input checked="" type="checkbox"/>	BACnet Client <input checked="" type="checkbox"/>
Retry Delay (S)	20	Sedona <input checked="" type="checkbox"/>	FTP <input type="checkbox"/>
<button>Configure BACnet Servers</button>		Authentication	
		User Name	admin
		Password
		<button>Close</button>	<button>Submit</button>
<p>NOTE: You must click the Submit button to store any changes.</p> <p>Changes will not take effect until the controller has been restarted. You can restart the controller from the main page.</p>			

from an NTP server), a Gateway Address is needed. The Gateway address allows the BAScontrol22C to communicate with a router or gateway device which links the BAScontrol22C's subnet to other networks. This address is the Local Area Network (LAN) address of the router/gateway device.

- 2d In most applications, the default DNS server parameters will suffice, but if a local DNS server is available and preferred, its address can be

entered in Primary DNS or Secondary DNS fields. The BAScontrol22C will use Primary DNS address first, and only if communication fails, it will use the Secondary DNS address.

Contact your network administrator for more information on the IP Address, Netmask, Gateway, and DNS addresses you should use in your application.

3. BACnet Client

BACnet Client configuration parameters allow you to tune the poll delay and poll retry delay for BACnet communication between BAScontrol22C client and BACnet server devices.

- 3a The default BACnet client Poll Delay (mS) is set to 1000mS. The shortest (minimum) poll delay allowed is 100mS. Depending on your application and limitations of your network, this parameter should be set to a reasonable value.
- 3b If the BACnet client in the BAScontrol22C fails to obtain a BACnet point value for whatever reason (such as high network traffic or interrupted connection), it will retry every 20 Seconds by default. This retry period can be changed to a minimum of 10 Seconds in the Retry Delay (S) field.

4. BACnet Device Configuration

BACnet device configuration is essential to the successful communication between BACnet client and server devices on the network.

- 4a Device Object Name is the name by which the BAScontrol22C will be discovered as by other BACnet client devices/tools (such as our free BACnet Discovery Tool - BDT) and/or supervisor controllers and/or workstations on the network (such as BASview or JACE).
- 4b Device Instance is a very important BACnet configuration parameter as the BACnet/IP protocol uses this value to identify and discover devices on the network. The Device Instance number must be unique to each device in the entire BACnet internetwork. This 22-bit value (0 – 4,194,303) must be unique throughout the entire BACnet internetwork. Its default value is 2749.
- 4c Depending on your current BACnet network configuration, the default UDP Port value of 47808 should usually not be changed.
- 4d BBMD IP Address is required in applications with BBMD. Enter the address of the BBMD with which the BAScontrol22C will perform Foreign Device Registration (FDR) — if the BBMD is not in the same subnet as the BAScontrol22C. BBMD Reg Time is specified in seconds between successive FDR registrations. Default value is 100.

- 4e Thanks to its Real Time Clock with retention, The BAScontrol22C can provide a time synchronization service to other BACnet devices. Time Transmissions (Min) is enabled by checking the BIP box and specifying a desired time period in minutes.

5. Enable Protocol

The checkboxes available under Enable Protocol allow the user to enable or disable protocols used by the BAScontrol22C. Changes take effect after the controller has been rebooted.

- 5a BACnet/IP communication protocol can be enabled or disabled by checking/unchecking the box. If disabled, BACnet Client service is automatically disabled (unchecked) as the BACnet/IP protocol is necessary for BACnet Client to function. With BACnet protocol disabled, the BAScontrol22C cannot be monitored or controlled over the BACnet network, however the Sedona control application will still run when BACnet is disabled.
- 5b Sedona checkbox will enable/disable the Sedona Virtual Machine (SVM) in the BAScontrol22C. The SVM is where the Sedona control logic executes. By disabling Sedona, you are effectively turning the BAScontrol22C into a remote I/O module which can only be controlled over BACnet by client devices such as supervisory controllers or workstations.
- 5c FTP protocol is only used by our technical support team in some cases when files may need to be recovered from the controller. If FTP is enabled, BACnet and Sedona will be automatically disabled and the controller will enter FTP mode after the reboot.

6. Authentication

It is strongly recommended that the default credentials of admin for User Name and admin for Password be changed for security reasons. Leaving these at default values may cause vulnerabilities in the security of your BACnet and/or your IP network.

Configuring the BACnet Servers

7. BACnet Server Devices Configuration

Once you have configured the BAScontrol22C system settings, you are ready to set up the BACnet server devices which the BAScontrol22C will communicate with. To access this configuration, click on Configure BACnet Servers button in System Configuration web page.

The screenshot shows the 'BACnet Device Configuration' section of the web interface. It includes fields for IP Configuration (IP Mode, IP Address, Netmask, Gateway, Primary DNS, Secondary DNS) and BACnet Device Configuration (Device Object Name, Device Instance, UDP Port, BBMD IP Address, BBMD Reg Time, Time Transmissions (Min), BIP checkbox). Below these are sections for BACnet Client (Poll Delay, Retry Delay) and Enable Protocol (BACnet/IP, Sedona, FTP, BACnet Client). An Authentication section contains User Name and Password fields. A 'Configure BACnet Servers' button is highlighted with a blue circle and the number 7. A note at the bottom states: 'NOTE: You must click the Submit button to store any changes. Changes will not take effect until the controller has been restarted. You can restart the controller from the main page.'

A BACnet discovery tool (such as our free [BACnet Discovery Tool - BDT](#)) can be used to assist you in this configuration if the server device is already online and available on the BACnet network. The tool is simple and easy to use. It discovers BACnet devices on the BACnet/IP network available at the specified UDP port number (usually 47808). BDT will list the discovered BACnet server device's Device Instance number, Device Name, IP address, or MAC address (if the device is routed from BACnet MS/TP to BACnet/IP). If you know the BACnet server device parameters, or they are not yet online and discoverable on the BACnet network, you can enter their Device Instance numbers in and IP or MAC address without the use of a BACnet discovery tool.

The screenshot shows the 'BACnet Discovery Tool v2.13.01 From Contemporary Controls' window. It displays a list of discovered devices: 'Device 0213102: BAScontrol20C at 10.0.13.102:bae0' and 'Device 0213155: BASstat-221B2 at 10.0.13.155:bae0'. On the right, there are configuration options: Port Number (Decimal) 47808, Your IP Address 10.0.13.22, BBMD Address, Device Instance Range (Beginning, End), Search, Devices Discovered (2), Show Object Names, Save Discovered Devices, Scan, Scan All, Scan Time (100), and Store to File.

7a Once at the BACnet Servers page, you can configure the sever device(s) the BAScontrol22C will poll from or write to by clicking the Add Server button. If the server device is BACnet/IP networked, and it is not routed (it is present on the same IP network), you do not need to check Routed or MS/TP checkboxes.

The screenshot shows the 'BACnet Servers' page with tabs for 'Servers' and 'Wire Sheet Components'. The main area displays 'No Data'. At the bottom, there are buttons for 'Revert', 'Submit', 'Delete Server', 'Add Server', and 'Close'. The 'Add Server' button is highlighted with a blue circle and the number 7a.

- 7b Enter a desired Server Name. The name can be anything which helps you identify the device, or it can be the actual Device Object Name of the BACnet server device as seen by other BACnet clients or in BACnet discovery tools.
- 7c Enter the unique Device Instance number of the BACnet server device. This can be seen in the BACnet discovery tool (outlined in blue in this example), or it can be obtained from the BACnet server device's settings web page or hardware configuration if available.

The screenshot shows the 'BACnet Servers' configuration window. It has two tabs: 'Servers' and 'Wire Sheet Components'. The 'Servers' tab is active. There are two checkboxes: 'Routed' and 'MS/TP'. Below them are three input fields: 'Server Name' with the value 'Default Server Name', 'Device Instance' with the value '1', and 'Local IP' with the value '0.0.0.0'. At the bottom right are 'Submit' and 'Cancel' buttons. At the bottom center is a 'Close' button.

- 7d The Local IP is the IP address of the BACnet server device. This can also be seen in the BACnet discovery tool or it can be obtained from the device's settings web page or network administrator.

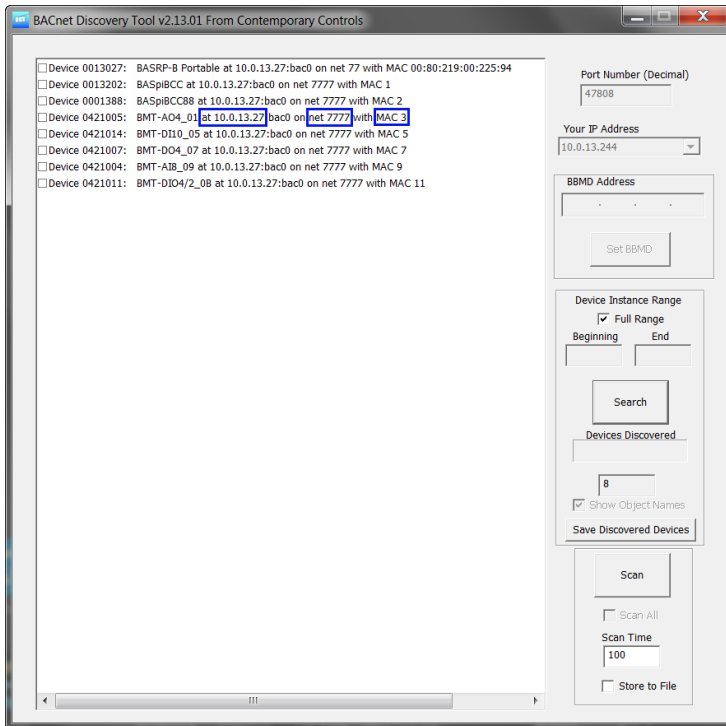
This screenshot is similar to the previous one but with values entered: 'Server Name' is 'BASstat-221B2', 'Device Instance' is '213155', and 'Local IP' is '10.0.13.15'. A blue line with a callout bubble labeled '7e' points to the 'Submit' button.

- 7e Click the Submit button once finished with configuring the BACnet server device. Repeat the process for adding more server devices.
- BACnet server device communication requires a reboot of the BAScontrol22C in order to become active. Click the Close button to close BACnet Servers page and reboot the controller by clicking Restart Controller from the main web page.

This screenshot shows the 'BACnet Servers' window after configuration. It has a 'Server' dropdown menu showing 'BASstat-221B2'. Below it are the same 'Routed' and 'MS/TP' checkboxes and input fields for 'Server Name', 'Device Instance', and 'Local IP'. At the bottom are four buttons: 'Revert', 'Submit', 'Delete Server', and 'Add Server'. A 'Close' button is at the bottom center.

Configuring Routed BACnet MS/TP servers

Configuring a Routed BACnet MS/TP device is very similar. BACnet router is needed to route the MS/TP device to



BACnet/IP. Use BDT to perform a discovery. Enter the Device Name, Device Instance, Router Address, Network (net), and MAC address as shown in BDT.

BACnet Servers

Servers
Wire Sheet Components

☒ Routed ☒ MS/TP

Server Name

Device Instance

Router Address

Network

Remote Address

After the reboot, the BAScontrol22C is ready to poll points from or write points to the BACnet server devices. BACnet server device points are configured from the Sedona wire sheet in the BAScontrol22C uses NetV components (Network Variable components). To open the Sedona wire sheet of the BAScontrol22C, you can use our free [Sedona Application Editor \(SAE\)](#) or Workbench AX. The Sedona Application editor is available for free as part of the [BAScontrol Toolset](#). [BAScontrol Sedona TXS and Component Bundles](#) are also available as free downloads and are required plug-ins to the Workbench AX tool in order to program Sedona logic with Workbench AX.

Configuring BACnet Server Devices' Points

The points of the previously configured BACnet server devices are configured from the BAScontrol22C's Sedona wire sheet. In order to configure server device points, open a Sedona connection to the BAScontrol22C. The example below shows using Contemporary Controls' free Sedona Application Editor (SAE).

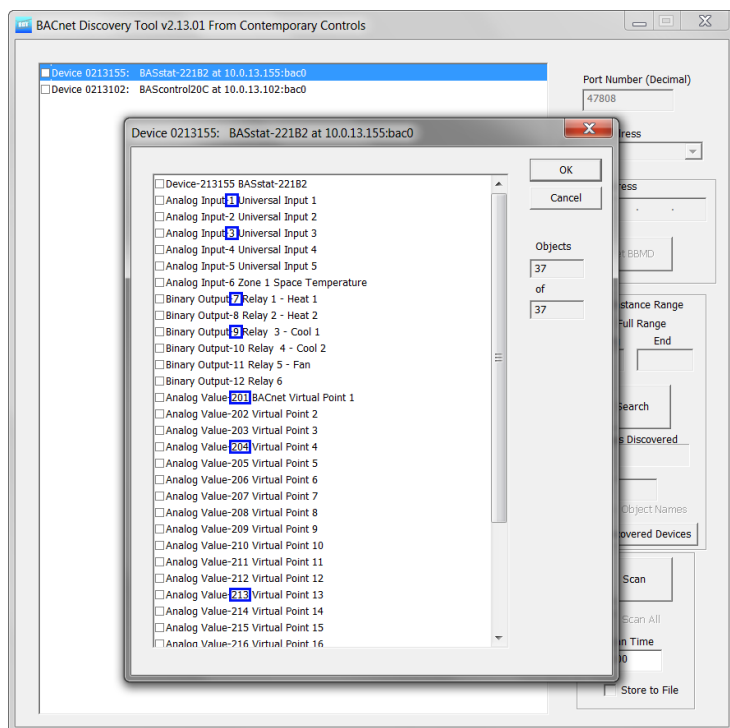
Click Open Connection button at the SAE toolbar and type the BAScontrol22C's IP address in the Host field. Then, enter the default credentials of *admin* for User Name and *admin* for Password and click the OK button to connect.

The BAScontrol22C's wire sheet will open and you are ready to write wire sheet logic as well as configure BACnet server points. To create a NetV component, simply drag-and-drop it on the wire sheet. NetV components are available in the CControls_BASCC_NETV kit. The Kits Pane in SAE show all currently installed kits on the platform (BAScontrol22C).



Once placed on the wire sheet, the NetV component needs to be configured to communicate with one of the BACnet server devices previously configured on the BAScontrol22C's BACnet Servers web page.

To configure a NetV component, drag and drop the one you want to use on the wire sheet. The NetV component must have the Device Instance which must be the same as previously configured on the Configure BACnet Servers web page as well as the correct Object Instance. The Object Instance can be seen in BDT - see screenshot below with object instances outlined in blue. The OutUse slots must be configured as Input or Output before the NetV can get to Online state. Once you have configured the NetV objects and they have come to Online state, you can observe the NetV components state for each configured BACnet server device on the Configure BACnet Servers web page in the BAScontrol22C by clicking on the Wiresheet Components Tab - see screenshots below. You can choose the NetV component of interest from the dropdown menu and refresh its data by clicking the Refresh Component button. The Reload Components button allows you to reload the component in the case of loss of communication with the BACnet server.



BACnet Servers

Servers Wire Sheet Components

Component: NetV

Device Instance: 13178

Object Instance: 1

Object Type: Analog Input

Action: Wire Sheet <-- Server Object

Status: Online

Value: 84.057373

Refresh Component

Reload Components

Close

BACnet Servers

Servers Wire Sheet Components

Component: NETVBO4-BO4

Device Instance: 13178

Object Instance: 20

Object Type: Binary Output

Action: Wire Sheet --> Server Object

Priority: 10

Status: Online

Value: 1.000000

Refresh Component

Reload Components

Close

Several NetV components are available in the CControls_BASCC_NETV kit.

NetV	
CControls_BASCC_NETV::NetV	
DevInstance	13178
ObjInstance	1
ObjType	AnalogInput
Priority	10
DefOutF	0.0
DefOutB	false
DefOutI	0
ValF	83.01
ValB	true
ValI	83
Relinquish	false
Enabled	false
Status	Online

NetV is the most universal component in the kit which can be configured to read or write a single point (object) on the target BACnet server device. *DevInstance* slot must have the correct target device instance configured.

ObjectInstance slot must be configured with the correct target device object instance to be read/written.

ObjType can be of any of the following BACnet object types and configured as Analog Input (AI), Analog Output (AO), Analog Value (AV), Binary Input (BI), Binary Output (BO), or Binary Value (BV). If the point configured in the NetV is a writable point such as AO, AV, BO, or BV, the *Enabled* slot must be set to *true*, if the object is read only such as AI or BI – set the *Enabled* slot to *false*.

Priority slot lets you configure the BACnet write priority for writable objects with range of 1 through 16 and default value of 10.

DefOutF, *DefOutB*, and *DefOutI* are slots used for setting a safe default value for an output or input in Float, Bool, and Integer data types. If the NetV object is offline, you need to be able to put the system Sedona logic in a safe state using these slots.

ValF, *ValB*, and *ValI* read the target object present value property when *Enabled* slot is set to false and command (write) the target object present value property when *Enabled* slot is set to *true*.

Relinquish slot is used to release the writable target object by removing the write and setting the specified write priority of the configured target object to *NULL* when triggered to true. The write to the target object at the specified priority is applied again when the *Relinquish* slot is toggled back to *false*.

Status slot indicates the *Online* or *Offline* state for the target object.

NETVAI4 CControls_BASCC_NETV::NETVAI4	
DevInstance	13178
Inp1Instance	1
Inp1Use	NotUsed
Inp2Instance	2
Inp2Use	Input
Inp3Instance	3
Inp3Use	Input
Inp4Instance	4
Inp4Use	Input
Inp1	0.0
Inp2	84.23
Inp3	84.08
Inp4	83.27
Status	Online

NETVAI4 component allows the reads of up to 4 BACnet objects on the remote BACnet server device of type Analog Input (AI) or Analog Value (AV).

DevInstance slot must have the correct target device instance.

Inp1Instance,
Inp2Instance,

Inp3Instance, and *Inp4Instance* slots must be configured with the correct target device object instances to be read.

Inp1Use, *Inp2Use*, *Inp3Use*, and *Inp4Use* are slots which allow you to set the use for each of the 4 objects. Since the NETVAI4 is a read only component, the two options are Input and Not Used.

Inp1, *Inp2*, *Inp3*, and *Inp4* slots display the target object present value property read from the target BACnet server device.

Status slot indicates the *Online* or *Offline* state for the target object.

NETVAO4 CControls_BASCC_NETV::NETVAO4	
DevInstance	13178
Out1Instance	13
Out1Use	Input
Out1Priority	10
Out2Instance	14
Out2Use	Output
Out2Priority	10
Out3Instance	15
Out3Use	Input
Out3Priority	10
Out4Instance	16
Out4Use	Output
Out4Priority	10
Out1	4.5
Relinquish1	false
Out2	0.0
Relinquish2	false
Out3	8.15
Relinquish3	false
Out4	0.0
Relinquish4	false
Status	Online

NETVAO4 component allows the reads or writes of up to 4 BACnet objects of type Analog Output (AO) or Analog Value (AV). When the *OutUse* slot is configured for Input, the component will read the target device AO or AV object present value property. When the *OutUse* slot is configured for Output, the component will write to the target device AO or AV object present value

property. When the *OutUse* slot is configured for *NotUsed*, the slot is not in use.

OutPriority slots let you configure the BACnet write priority for writable target objects with range 1 through 16 and default value of 10.

Out1, *Out2*, *Out3*, and *Out4* slots read the target object present value property when *OutUse* slot is set to Input and command (write) to the target object present value property when *OutUse* slot is set to Output.

Relinquish slot is used to release the writable target object by removing the write and setting the specified write priority of the configured target object to *NULL* when triggered to true. The write to the target object at the specified priority is applied again when the *Relinquish* slot is toggled back to *false*.

Status slot indicates the *Online* or *Offline* state for the target object.

NETVBI4 CControls_BASCC_NETV::NETVBI4	
DevInstance	13178
Inp1Instance	9
Inp1Use	Input
Inp2Instance	10
Inp2Use	Input
Inp3Instance	11
Inp3Use	Input
Inp4Instance	12
Inp4Use	Input
Inp1	false
Inp2	true
Inp3	false
Inp4	false
Status	Online

NETVBI4 component allows the reads of up to 4 BACnet objects of type Binary Input (BI) or Binary Value (BV).

DevInstance slot must have the correct target device instance.

Inp1Instance,
Inp2Instance,
Inp3Instance, and
Inp4Instance slots must

be configured with the correct target object instances to be read.

Inp1Use, *Inp2Use*, *Inp3Use*, and *Inp4Use* are slots which allow you to set the use for each of the 4 objects. Since the NETVBI4 is a read only component, the two options are Input and Not Used.

Inp1, *Inp2*, *Inp3*, and *Inp4* slots display the target object present value property read from the target BACnet server device.

Status slot indicates the *Online* or *Offline* state for the target object.

NETVBO4	
CControls_BASCC_NETV::NETVBO4	
DevInstance	13178
Out1Instance	17
Out1Use	Input
Out1Priority	10
Out2Instance	18
Out2Use	Output
Out2Priority	10
Out3Instance	19
Out3Use	Output
Out3Priority	10
Out4Instance	20
Out4Use	Input
Out4Priority	10
Out1	true
Relinquish1	false
Out2	false
Relinquish2	false
Out3	false
Relinquish3	false
Out4	true
Relinquish4	false
Status	Online

NETVBO4 component allows the reads or writes of up to 4 BACnet objects of type Binary Output (BO) or Binary Value (BV). When the *OutUse* slot is configured for Input, the component will read the target device BO or BV object present value property. When the *OutUse* slot is configured for Output, the component will write to the target device BO or BV object present value property. When the

OutUse slot is configured for *NotUsed*, the slot is not in use.

OutPriority slots let you configure the BACnet write priority for writable objects with range 1 through 16 and default value of 10.

Out1, *Out2*, *Out3*, and *Out4* slots read the target object present value property when *OutUse* slot is set to Input and command (write) to the target object present value property when *OutUse* slot is set to Output.

Relinquish slot is used to release the writable target object by removing the write and setting the specified write priority of the configured target object to *NULL* when triggered to *true*. The write to the target object at the specified priority is applied again when the *Relinquish* slot is toggled back to *false*.

Status slot indicates the *Online* or *Offline* state for the target object.

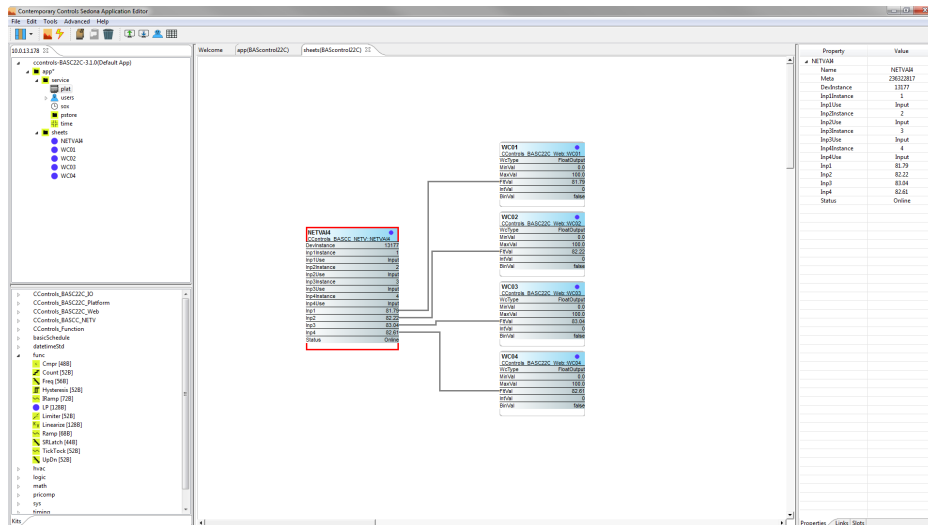
plat
CControls_BASCC22C_Platform::BASCC22CPlatformService
PlatformId ccontrols-BASCC22C-3.1.0
PlatformVer BAScontrol 2.0.1
MemAvailable 24888

- CControls_Math
- basicSchedule
- datetimeStd
- func
- hvac
- logic
- math
- pricomp
- sys
 - AppDbg [168B]
 - Folder [36B]
 - PlatformService [204B]
 - RateFolder [44B]
 - Service [40B]
 - User [68B]
 - UserService [40B]
- timing
- types

The BAScontrol22C can only keep up with a limited number of BACnet server devices/points because it is not intended for use as a building/supervisory controller. Each point polled by the BAScontrol22C costs RAM memory which in turn is a trade-off to how large the Sedona wire sheet logic in the controller can be. The BAScontrol22C starts out with 26Kbytes of RAM memory. Activating the BACnet client with the first BACnet object uses 2Kbytes of RAM memory. Each additional BACnet object uses 300 bytes of RAM memory. Using NETVAI4, NETVBI4, NETVAO4, and NETVBO4 components optimizes memory use by reading or writing 4 objects at a time with one component versus using a single NetV component for a single BACnet object. BAScontrol22C RAM memory can be monitored in real time by use of the *plat* Sedona component located in the Service folder or the *Platform Service* component dragged and dropped from the sys kit anywhere on the wiresheet. The minimum *MemAvailable* value is 8192bytes (about 8Kbytes) needed for the controller to operate. Once this minimum value is reached no more components can be placed on the wiresheet. The Sedona Application Editor will prevent you from doing so by immediately erasing a dropped component when the minimum *MemAvailable* value is reached.

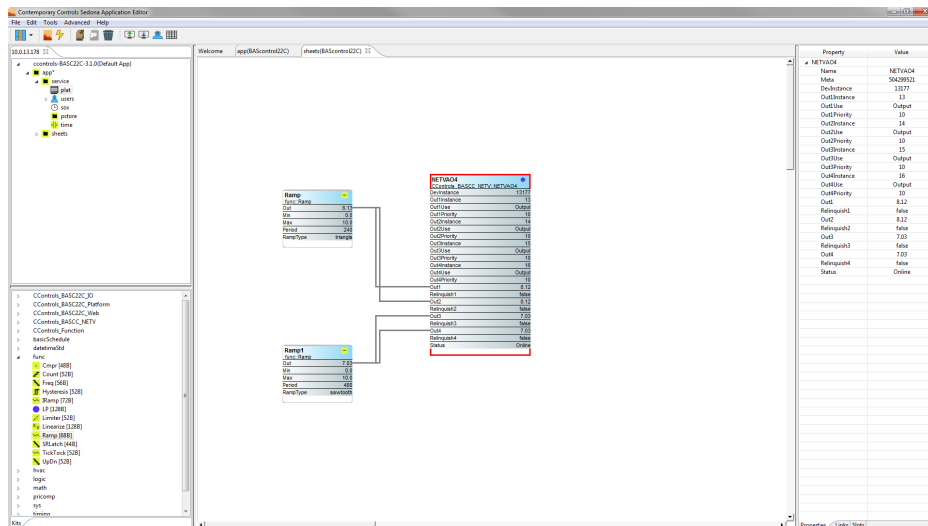
Examples

In this first example below we have configured a NETVAI4 to read 4 Analog Inputs from a BACnet server on the network.



Property	Value
NETVAI4	
Name	NETVAI4
Meta	23632817
DevInstance	13177
Inp1Instance	1
Inp1Use	Input
Inp2Instance	2
Inp2Use	Input
Inp3Instance	3
Inp3Use	Input
Inp4Instance	4
Inp4Use	Input
Inp1	81.62
Inp2	82.67
Inp3	83.71
Inp4	83.36
Status	Online

In this next example below we have configured a NETVAO4 to write to 4 Analog Outputs from a BACnet server on the network.



Property	Value
NETVAO4	
Name	NETVAO4
Meta	504299521
DevInstance	13177
Out1Instance	13
Out1Use	Output
Out1Priority	10
Out2Instance	14
Out2Use	Output
Out2Priority	10
Out3Instance	15
Out3Use	Output
Out3Priority	10
Out4Instance	16
Out4Use	Output
Out4Priority	10
Out1	9.57
Relinquish1	false
Out2	9.57
Relinquish2	false
Out3	7.39
Relinquish3	false
Out4	7.39
Relinquish4	false
Status	Online

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