HOW-TO GUIDE

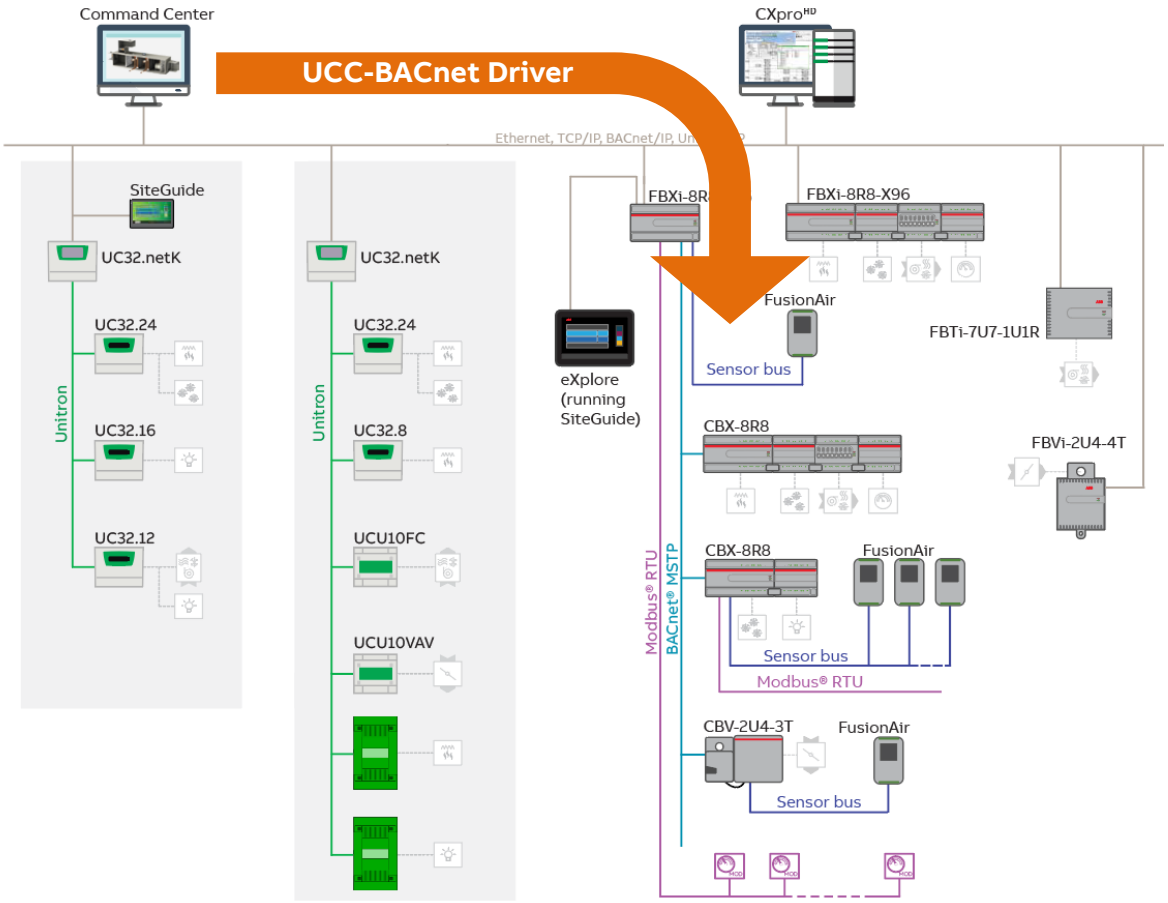
HT0050 Rev 5

How to configure BACnet devices for a Unitron site

1 Introduction

This document describes how to configure BACnet devices for **Unitron** sites.

Using the **UCC-BACnet driver**, **ABB Cylon BACnet** controller trunks can be connected to **Unitron** sites without the need for an **ASPECT®** supervisory control layer. **Unitron Command Centre** (**UCC**) is capable of retrieving data from mixed BACnet® / **Unitron** sites (**CXpro**[HD] is used to engineer the **Cylon BACnet** devices).



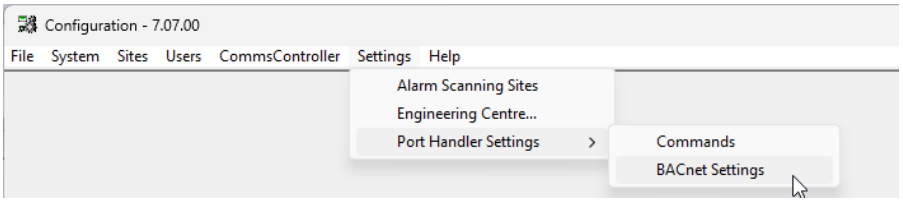
When **Cylon BACnet** devices are installed on a Site they must first be engineered in **CXpro**[HD], and then when they are operational they can be added to the **Unitron** site as described below, and made visible within **Cylon Engineering Centre** (**CEC**) and **Unitron Command Centre** (**UCC**) alongside **Unitron** devices.

Both BACnet and **Unitron** controllers on a mixed protocol site are visible in the **UCC**/**CEC** Site Tree.

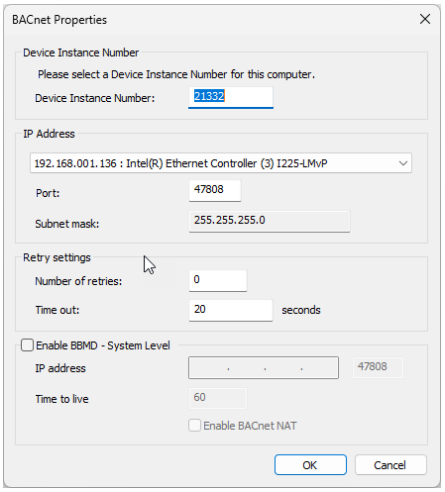
BACnet trend log data is accessible and can be backed up in the same way as the **Unitron** data, and a facility for the management of BACnet schedules and alarms is available in the **UCC**.

2 Configuring BACnet Devices on a Site

- Before running the discovery function, it is necessary to verify if the BACnet properties of the **CEC** are configured correctly. For this go to CCConfig and select BACnet Settings.

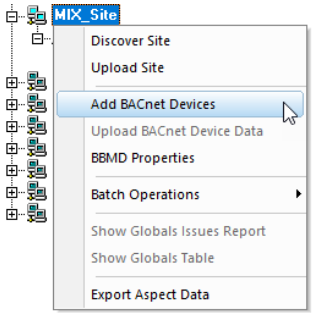


- Make sure that Device Instance number of the PC BACnet Stack is unique for the whole BACnet network and IP Address is in the right range for the BACnet devices that you are about to add.



Note: If BACnet devices are on a different IP VLAN then an Enable BBMD – System Level option is available to bridge PC and BACnet devices networks.
When bridging networks it is essential to provide and continuously ensure a secure connection between the product and your network or any other network (as the case may be).

- Discover and add BACnet devices – in the **CEC** Site tree right-click on the desired **Unitron** site and select Add BACnet Devices to launch the Discovery Tool.

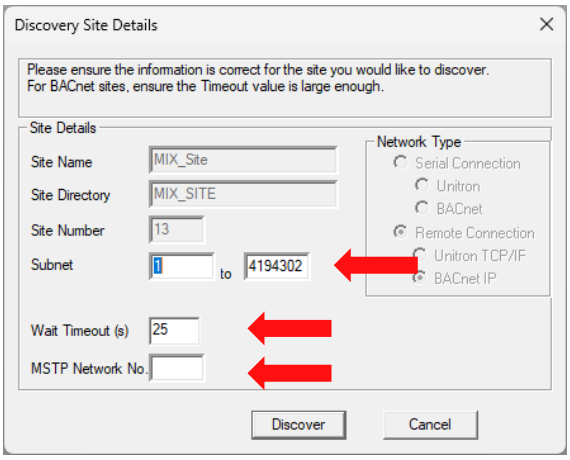


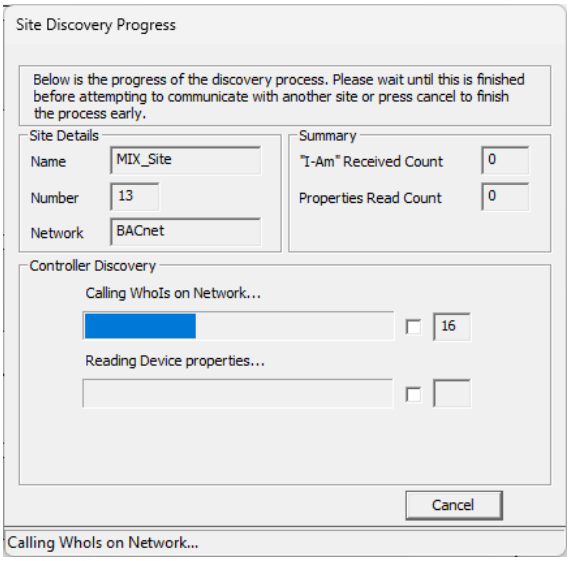
Note: Windows might ask for the driver to be allowed access to your networks. This must be granted for the **BACnet** discovery to work.

Note: The 'Add BACnet Devices' option is available only on Site nodes within **Unitron** sites or mixed sites. This option is not available in BACnet-only sites.

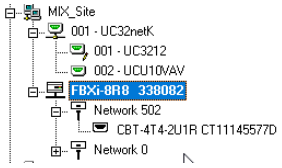
Note: This functionality will only be available if the BACnet devices are connected under a Smart Router.

- Configure your discovery BACnet ID range (Site Details > Subnet)between 1 and 4194302. If your BACnet networks are large and have MSTP devices it is recommended to increase the Wait Timeout. If required you can limit the discovery to a single MSTP network by setting MSTP Network No. (if this is left blank the discovery will broadcast a "Who-is" to all available BACnet networks).



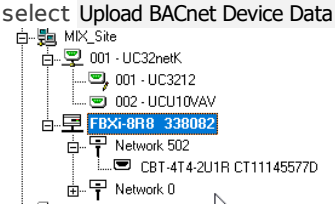


- In the Discovery Tool, select the required devices and add them to the site.

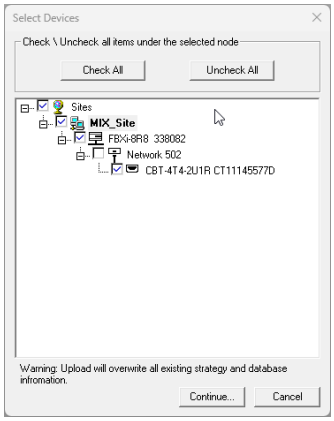


In the Site Tree you will see a BACnet devices and trunks alongside existing Unitron trunks

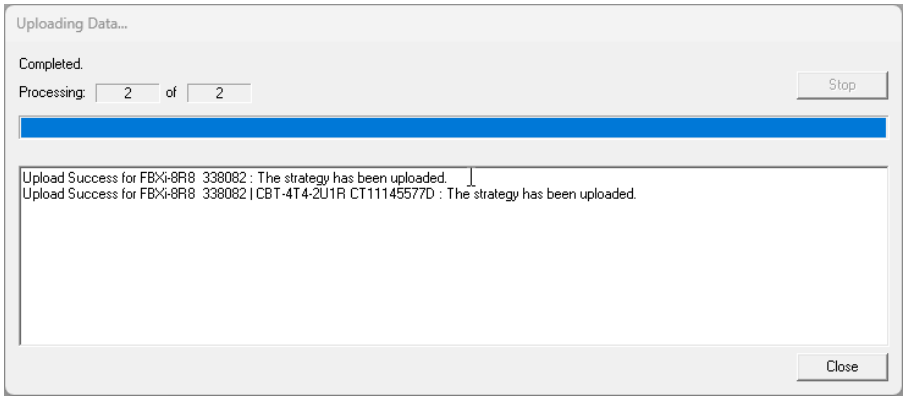
- To upload Data discovered from the BACnet devices, right-click on the Site node of a **Unitron** or mixed site, and select Upload BACnet Device Data to open the Select Devices dialog:

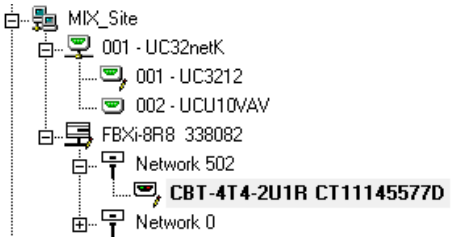


- Select the controllers from which you want to upload BACnet and controller data, and press Continue...



Note: If the discovered data was previously uploaded, and subsequent changes made through **CXpro**^{HD}, then the **CEC** will display a warning to allow you to choose whether to overwrite existing data or to cancel the upload.
This includes adding a new database to the BACnet site at any time in the future and simply importing that database into the **Unitron** Site.

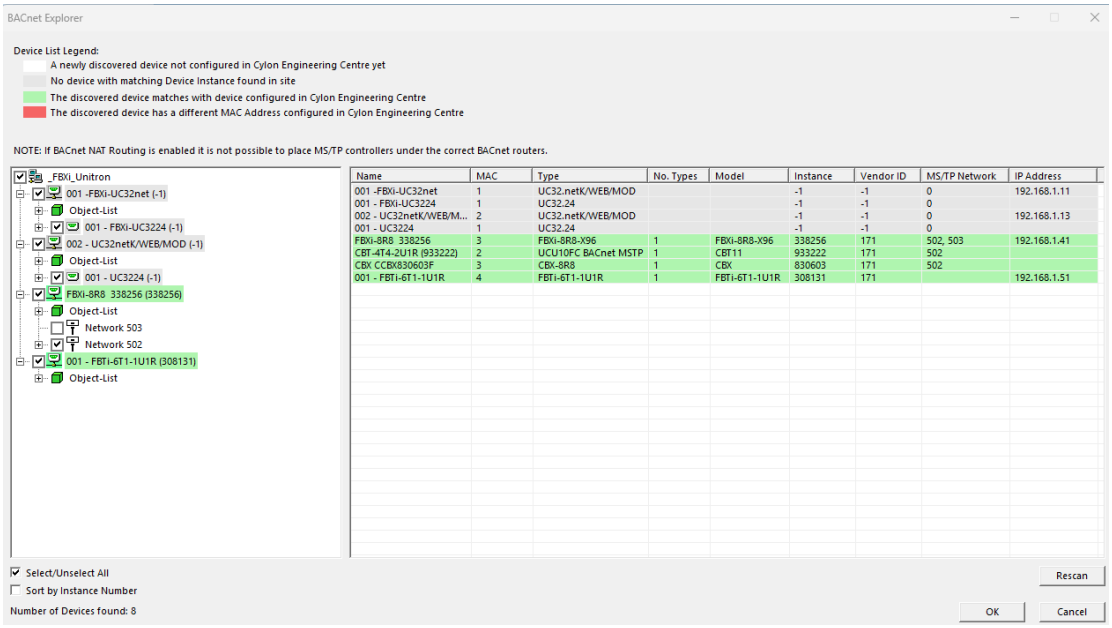




Note: Strategies on imported BACnet devices can only be created/edited in **CXpro**^{HD}.

EXAMPLES OF DISCOVERY RESULTS

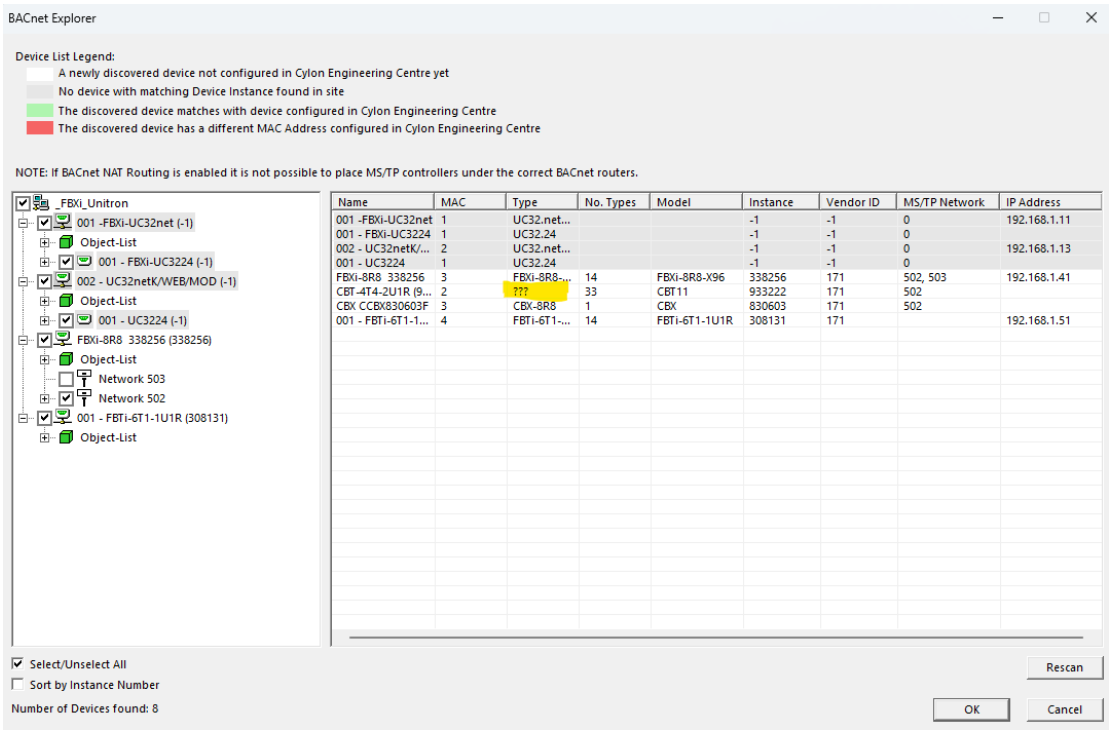
TYPICAL DISCOVERY RESULT



DISCOVERY RESULT WITH “???” ERROR

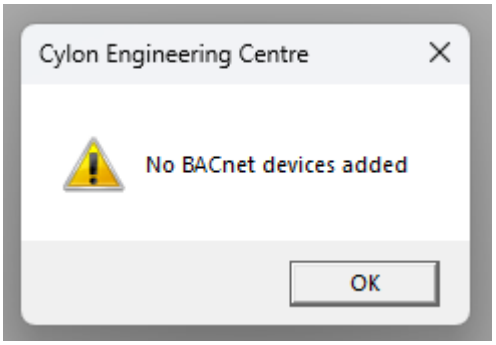
If “`???`” characters are displayed in the “`Type`” column it indicates that the `Controller Type` was not recognized.

If a controller displays `???` then to allow the importing process to continue either that controller must be deselected, or it must be manually edited to set a type.



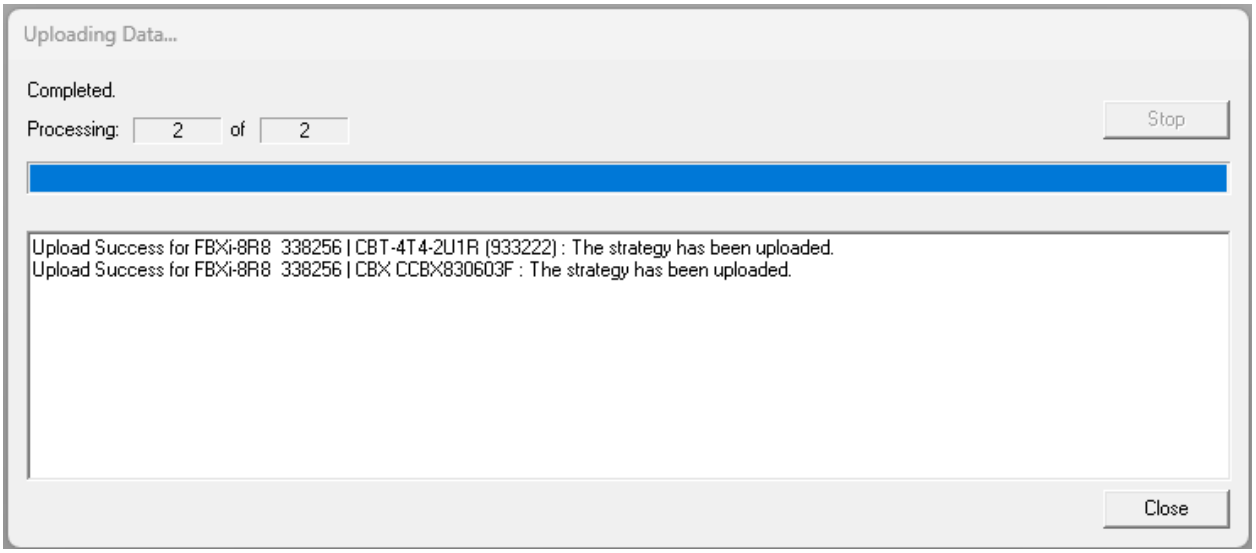
NO DEVICES ADDED

If you run `Add BACnet Devices` to initiate a discovery and no new BACnet devices are discovered, then the following message will be displayed :



SUCCESSFUL UPLOAD

if BACnet Data is successfully uploaded a message like the one below is displayed



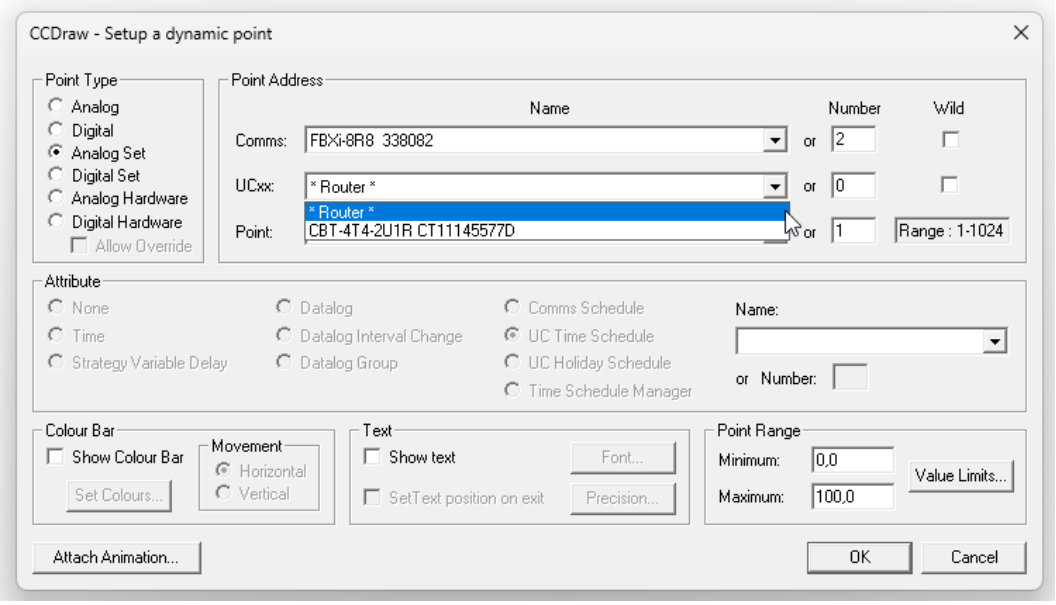
3 Configuring BACnet points in CCDraw

Once the BACnet data of added BACnet devices have been uploaded to the **Unitron** site, then points mapping in graphics can be performed.

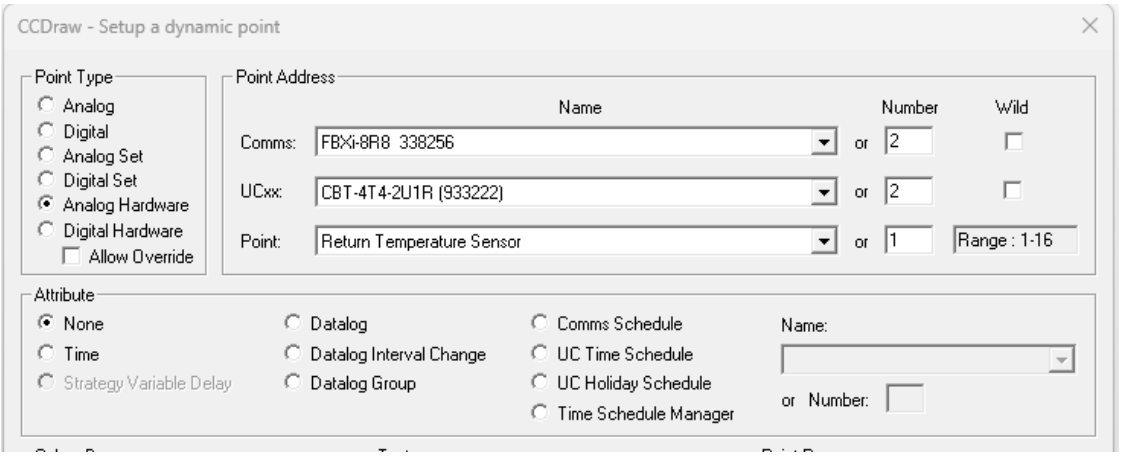
Dynamic Points from the BACnet Controllers are added to **Command Centre** Graphics in the same way as points from **Unitron** controllers are added.

Open **CCDraw** and using analog or digital point tool place it on the graphical screen. The CCDraw – Setup a dynamic point dialog window will open.

- If your BACnet Router supports Strategies, then the UCxx selection field will include an option to select "`* Router *`", and in that case the Point selector will reflect points in the Router.

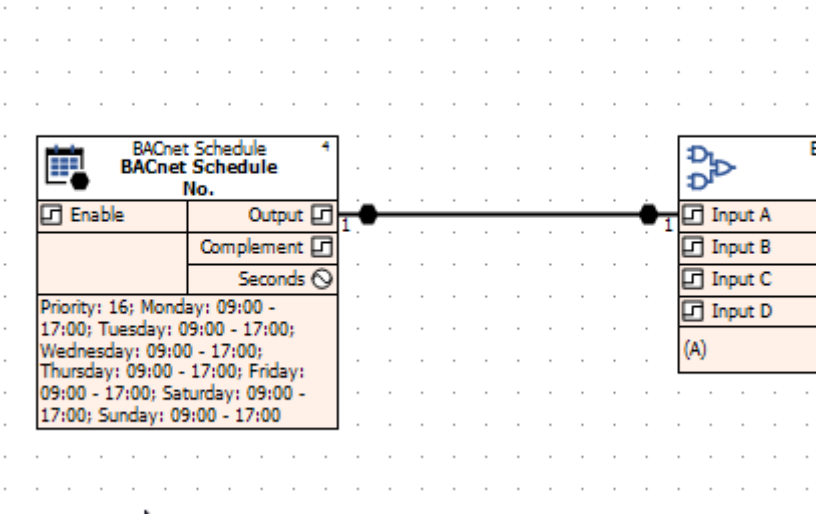


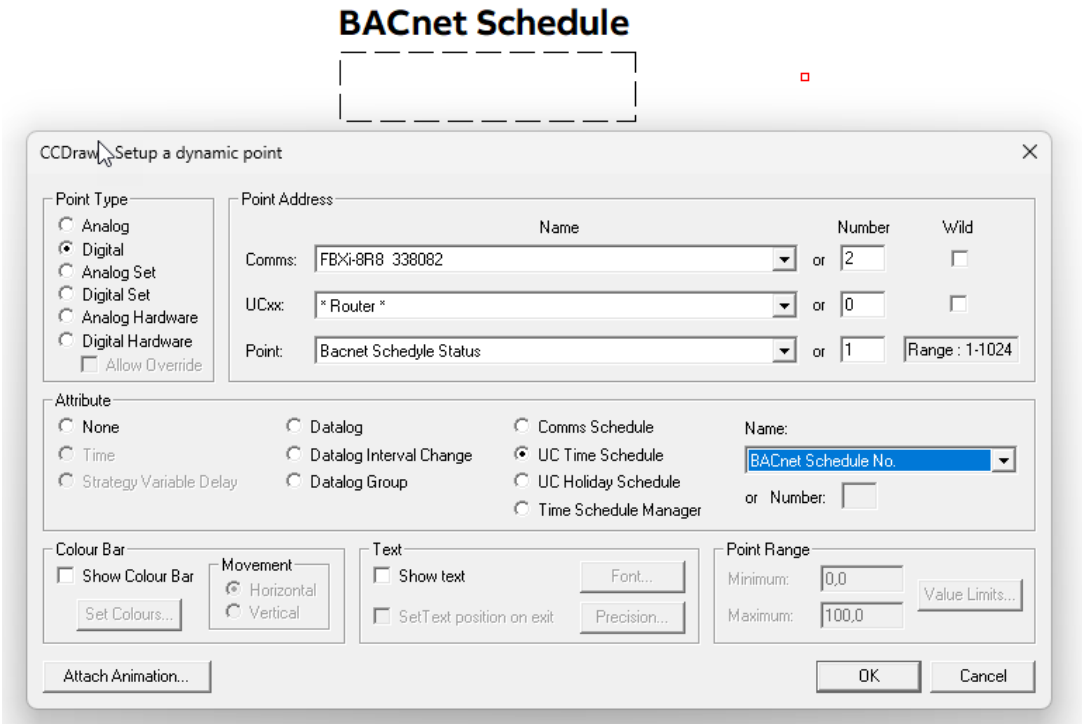
- BACnet points from MSTP devices connected to an ABB Cylon Router are configured as below



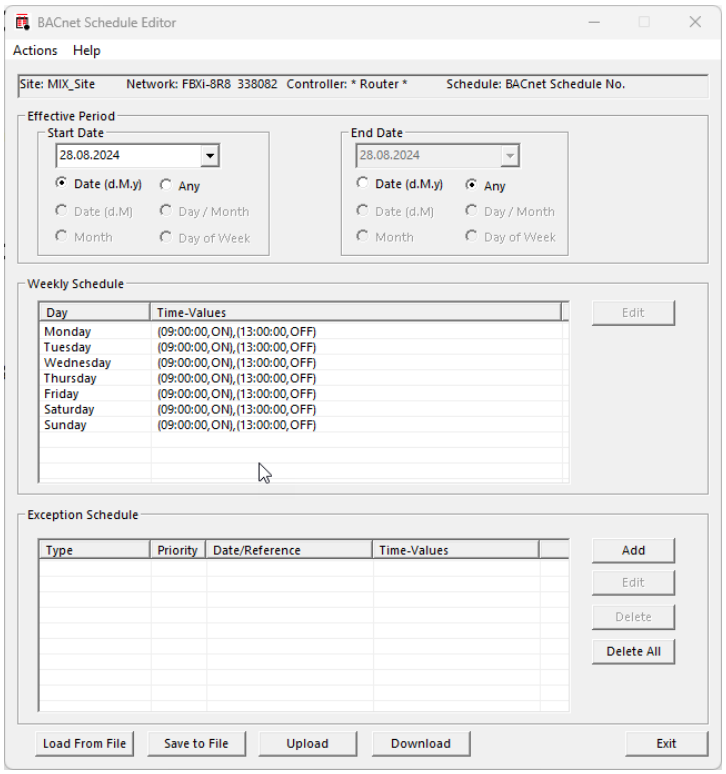
4 Configuring BACnet Schedules

- When adding a dynamic point for a BACnet Schedule use the "UC Time Schedule" attribute that refers to a BACnet Time Schedule.

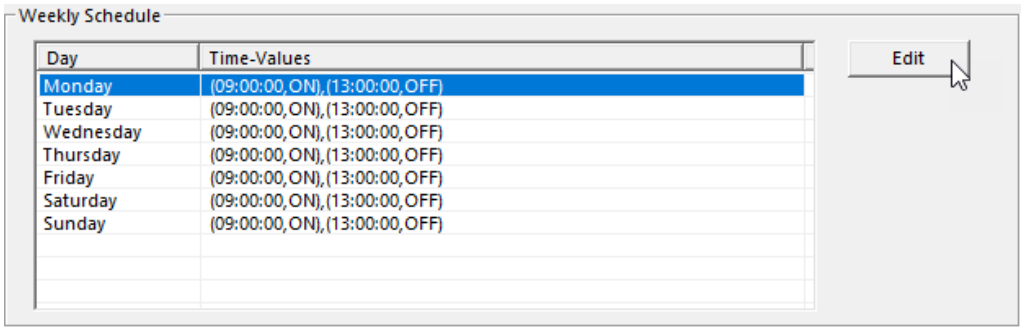




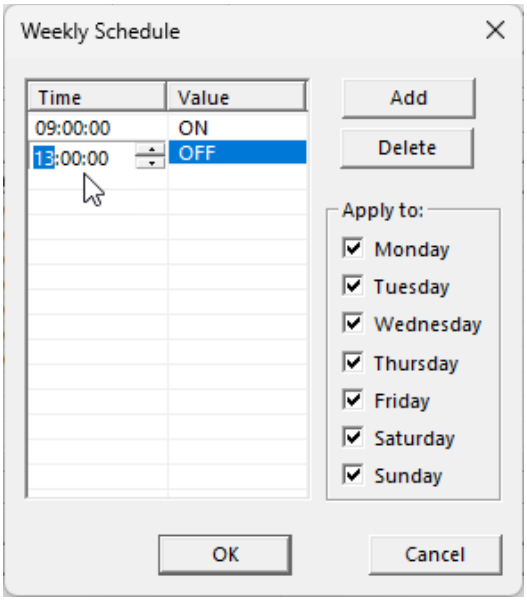
- In **CCView**, once you click on the Schedule point the BACnet Schedule Editor will open:



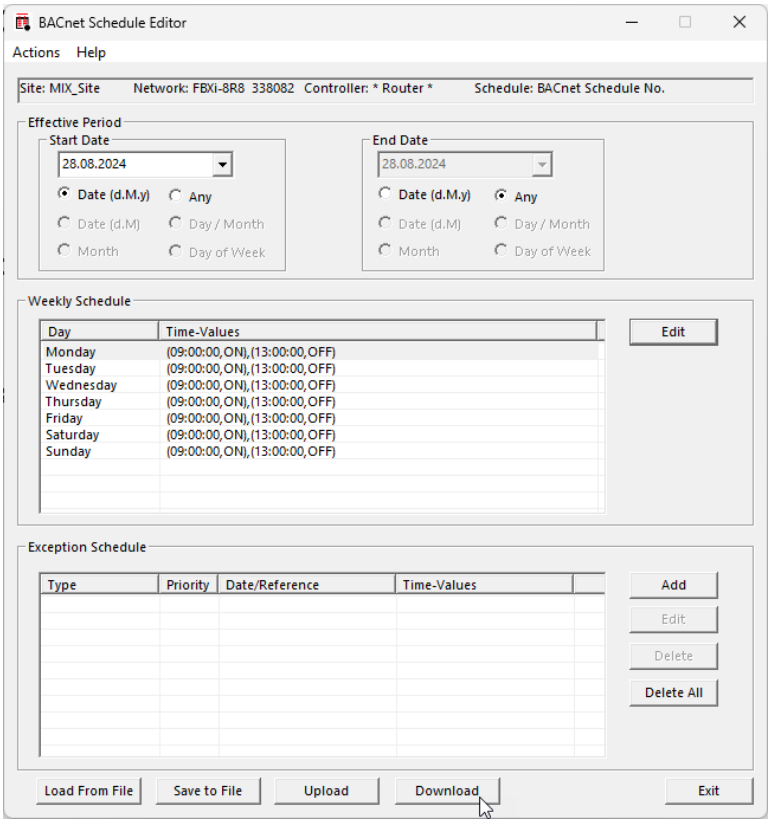
- Select one of the days on the left and click on Edit button



This will open a weekly BACnet Weekly Schedule editor where times can be added or moddified. Click OK to accept the changes

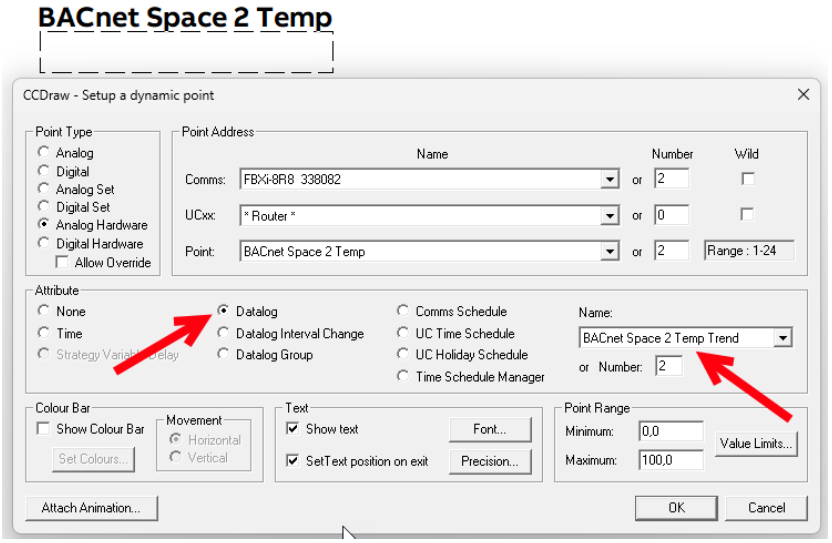


- Click on the Download button to send changes to BACnet Schedule



5 Configuring BACnet Trendlogs

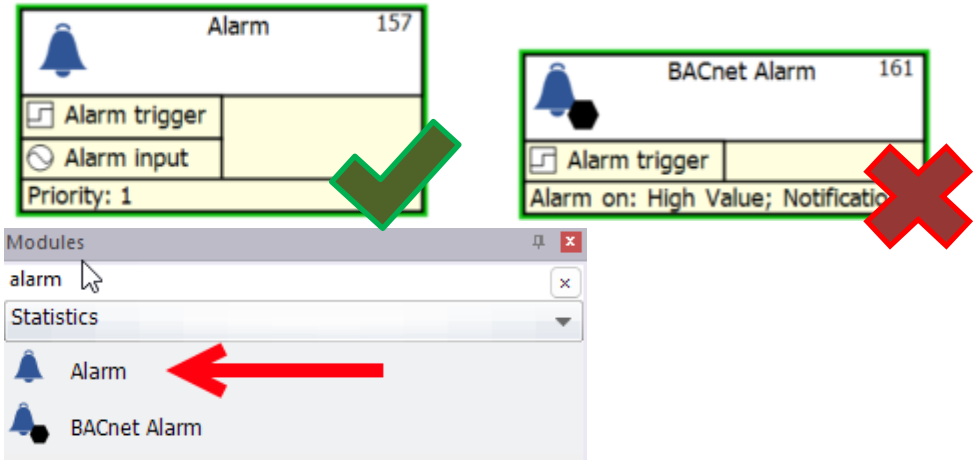
To configure a BACnet Trendlog, in the Attribute section of the CCDraw – Setup a dynamic point dialog, select the Datalog option, in the same way as for a Unitron Site.



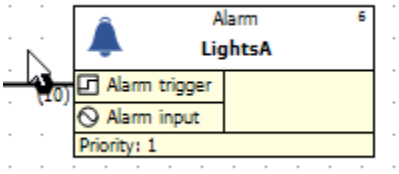
6 BACnet Alarms in Unitron CCAlarms

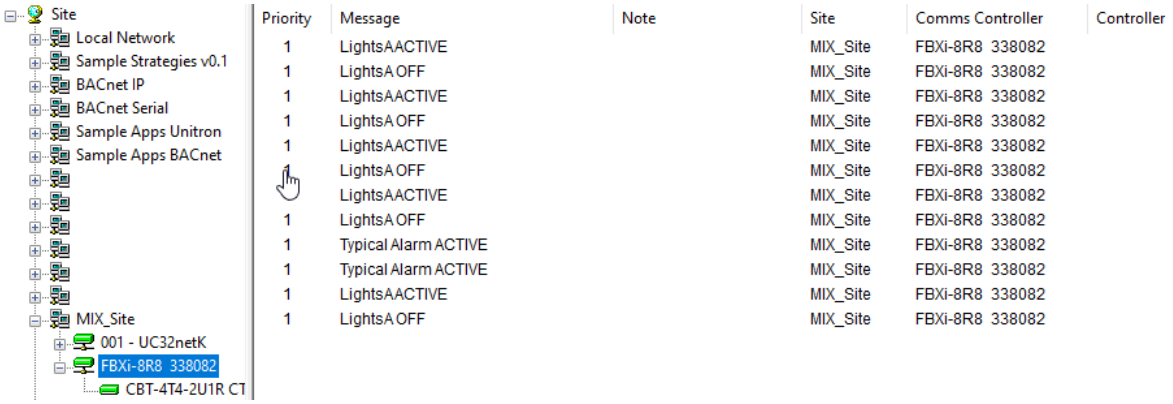
There are two different Alarm modules available within CXpro[HD]. To configure an Alarm for use in the **Unitron** CCAlarms module, the "standard" Alarm module must be used, rather than the BACnet Alarm module.

Note: The **Unitron** BACnet driver does not recognize the BACnet Alarm Module

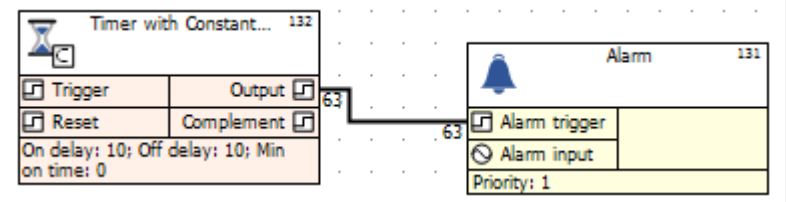


CCAlarms will display BACnet site alarms as **Unitron** Alarms





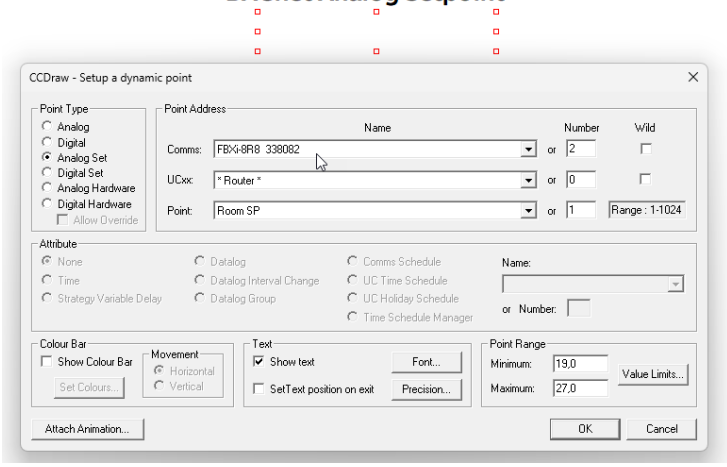
Note: If a **BACnet** alarm event occurs and clears in a very short period it might not be reported. To avoid this, it is recommended that a Minimum On Timer (30 seconds) is used on the input to the Alarm module to ensure that short duration alarms are always captured.



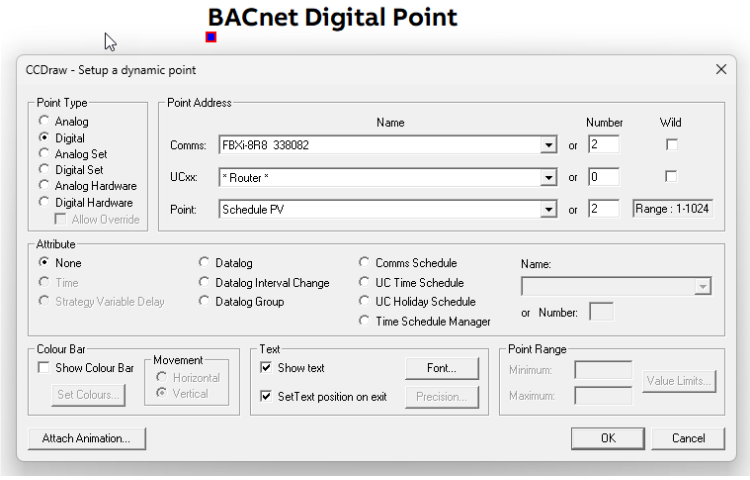
7 Configuring BACnet graphical points for Unitron

Add BACnet Points to **Command Centre** Graphics using CCDraw in the same way as for a **Unitron** site

BACnet Analog Setpoint

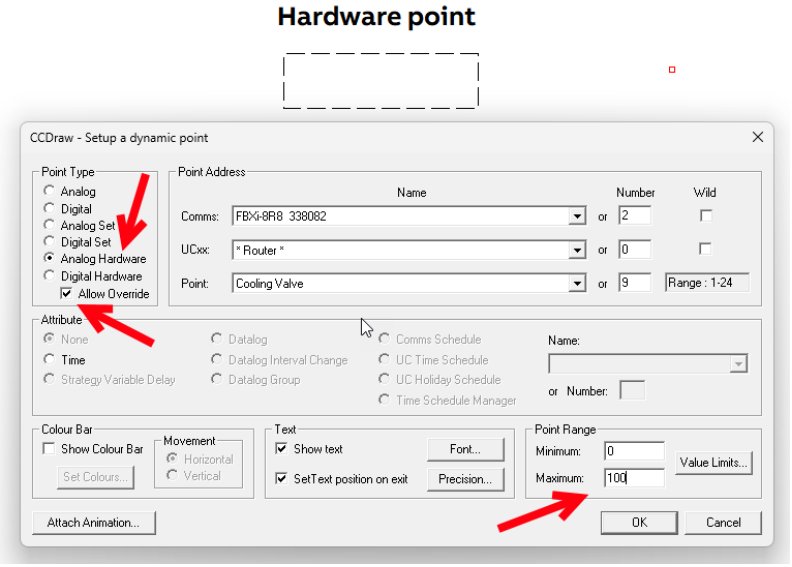


BACnet Digital Point



A Hardware Point can be Manually Overridden from a **Unitron Command Centre** Graphic and this is set up in CCDraw in exactly the same way as Unitron points - as shown in the screenshot below.

Hardware point



In addition, limits can be set for BACnet setpoints in the same way as they for **Unitron** points - as shown in the bottom-right of the screenshot above.