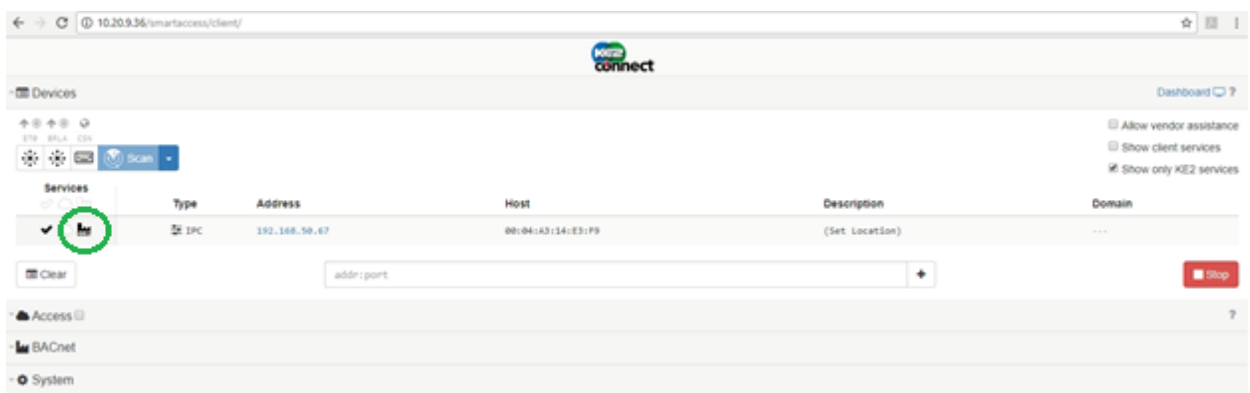


## EM Series - BACnet Gateway services installation instructions

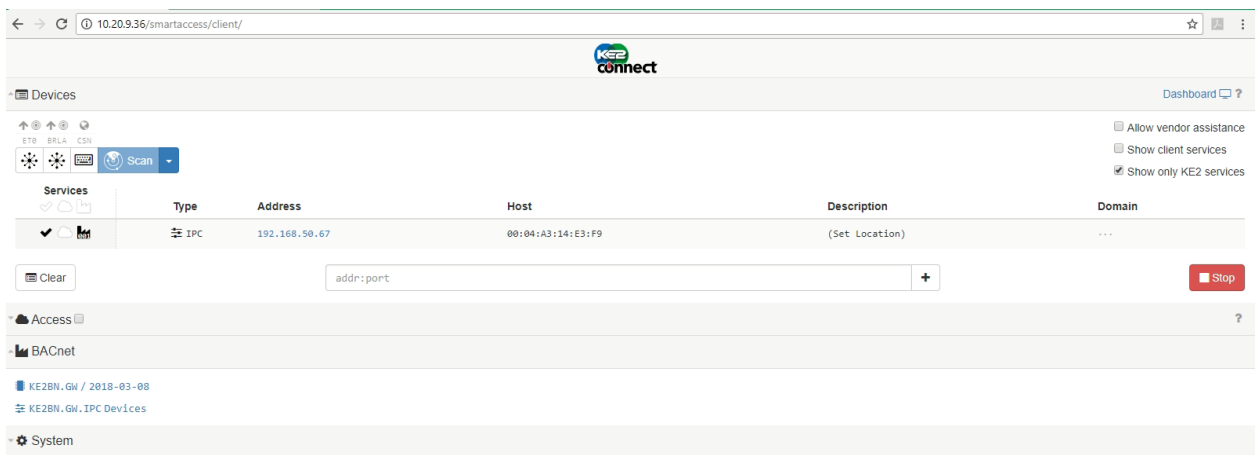
1. Connect to the EM Series Gateway – Wired or Wirelessly
  - a. Wired – Connect RJ45 Ethernet cable to Laptop or Desktop and the other end to LAN Port of EM35
    - i. Open browser (Chrome, Internet Explorer, Edge, Firefox, Safari, etc) and type in <http://192.168.50.1> and press enter
  - b. Wireless – Locate the Wireless Network of the EM35 – It will be listed on a label on the back of the unit (Ex. KE2EDGE-4F2A1A)
    - i. Open browser (Chrome, Internet Explorer, Edge, Firefox, Safari, etc) and type in <http://192.168.50.1> and press enter
2. Connect the EM Series Gateway WAN Port into the EMS / BMS network. For your convenience, this port has already been configured as a DHCP Client. To configure a STATIC IP address on the WAN Port, visit the EM Series documentation for details.
3. Select the **Manage** link from the EM Dashboard. Note: You will be prompted for login credentials (located on the bottom of the unit) if you haven't already signed in.

You will now see a list of controller(s) available for Gateway services to the BAS (Building Automation System) / EMS (Energy Management System). At this time, only the KE2 Evaporator Efficiency is available for this Gateway service.

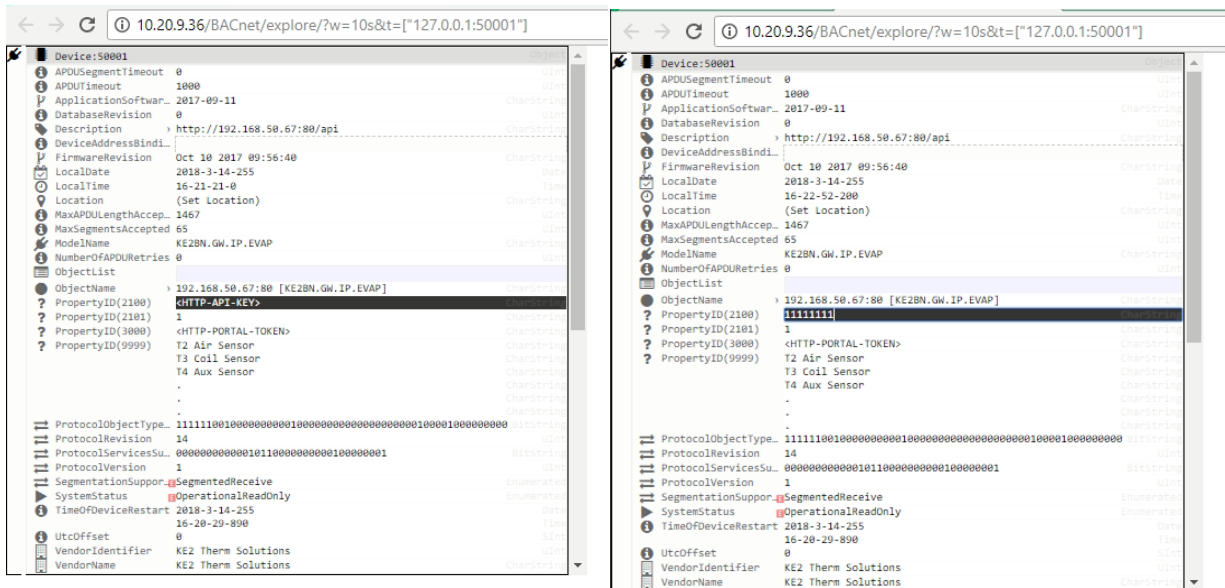
4. On the left, in the Services section, click the Industrial Building icon AND the Check Mark icon to **ENABLE** BACnet Gateway services. The icon will turn black once services have started. If you have multiple controllers listed, simply click the Industrial Building and Check Mark on any/all controllers you wish to provide BACnet Gateway services for.



5. Now, click on the BACnet Menu bar, once expanded, click **KE2BN.GW.IPCDevices**. This step is necessary to allow the BMS/EMS access to READ/WRITE setpoints on the KE2 controller(s).



- Once **KE2BN.GW.IPCDevice** has been clicked, a new tab will appear. Locate the <HTTP-API-KEY> field and input the 8-16 character controller API key – **DO NOT INPUT** the < > characters. The controller API key can be located on the SETTINGS page of the controller. Note: You must be logged in to set/see the controller API Key. See controller documentation as necessary.

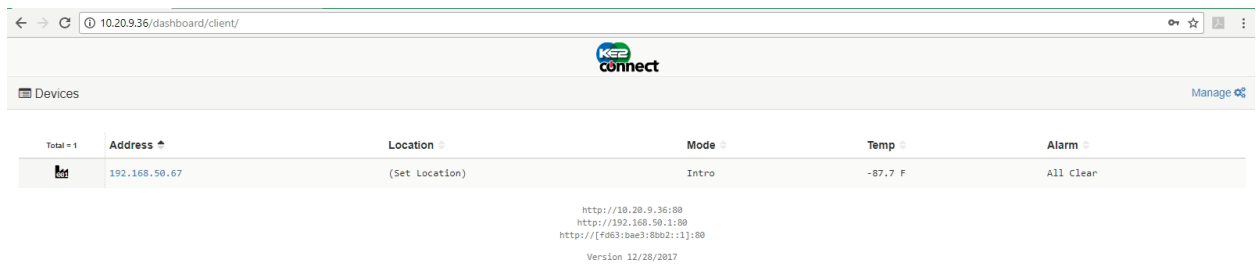


Ex: Assuming controller API Key is 11111111

- Close the **KE2BN.GW.IPCDevice** services tab, and now click on the **DASHBOARD** link to return to the EM Dashboard.

## Congratulations!!

You now have successfully configured BACnet Gateway services on the EM Series product.



The screenshot shows a web browser window with the address bar displaying "10.20.9.36/dashboard/client/". The page features the "KEE connect" logo at the top center. Below the logo, there is a "Devices" section with a "Manage" link. A table lists the configured devices. The table has columns for "Total", "Address", "Location", "Mode", "Temp", and "Alarm". A single device is listed with a black Industrial Building icon, address "192.168.50.67", location "(Set Location)", mode "Intro", temperature "-87.7 F", and alarm status "All Clear". Below the table, there are three URLs: "http://10.20.9.36:80", "http://192.168.50.1:80", and "http://[fd63:bac3:8002:11]:80". The version "Version 12/28/2017" is also displayed.

Total	Address	Location	Mode	Temp	Alarm
1	192.168.50.67	(Set Location)	Intro	-87.7 F	All Clear

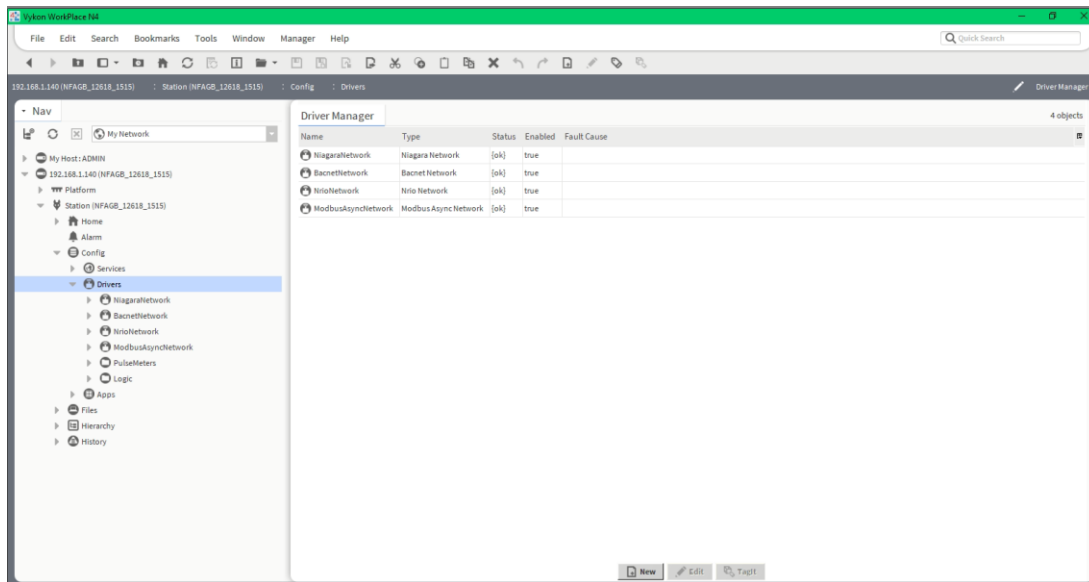
http://10.20.9.36:80  
http://192.168.50.1:80  
http://[fd63:bac3:8002:11]:80  
Version 12/28/2017

You should see the controller(s) listed on the EM Dashboard that have been configured. The black Industrial Building icon indicates the controller(s) is actively delivering controller data via BACnet/IP.

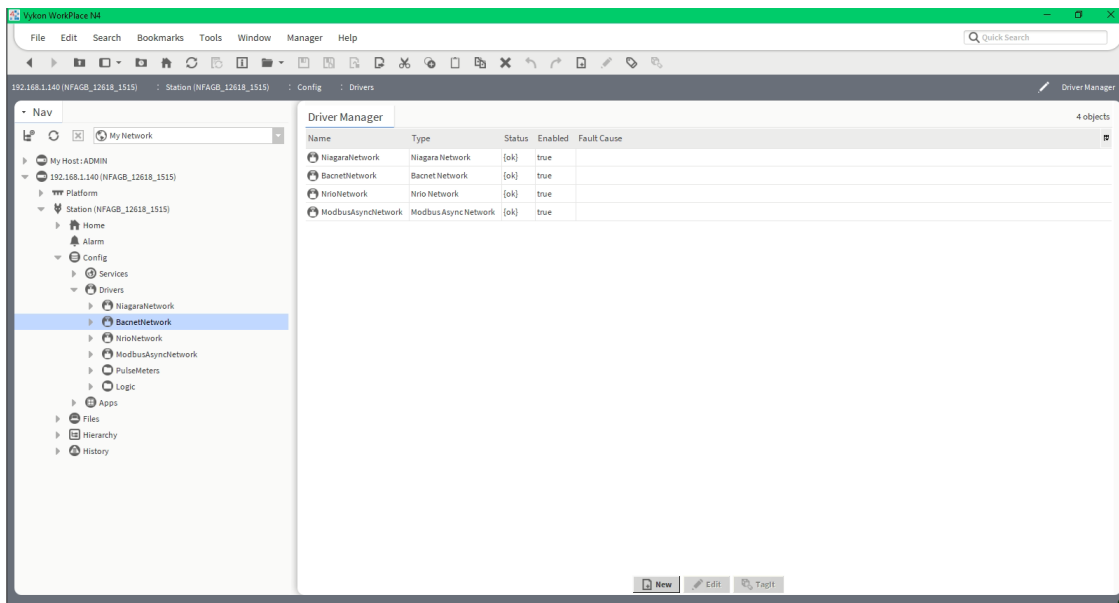
# EM Series - BACnet Gateway services installation instructions

## Niagara Configuration

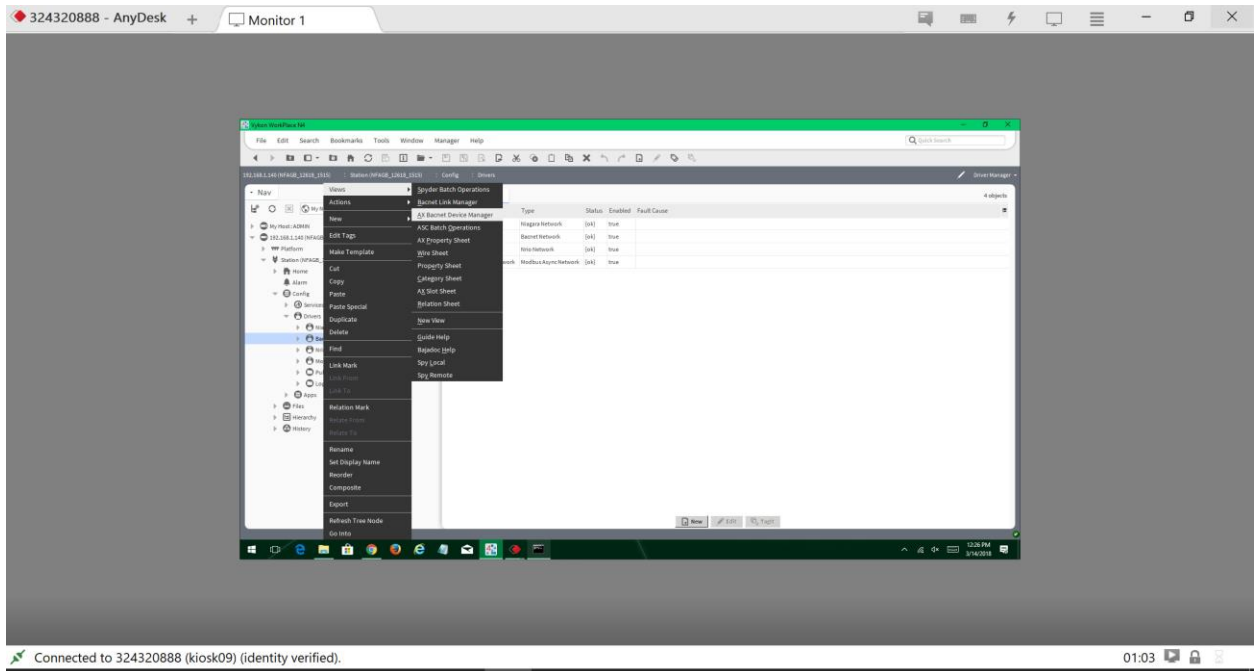
1. Log into the Vykon Workplace. Make sure ALL services are started and running
2. Drill down into **Station**, then into **Drivers**



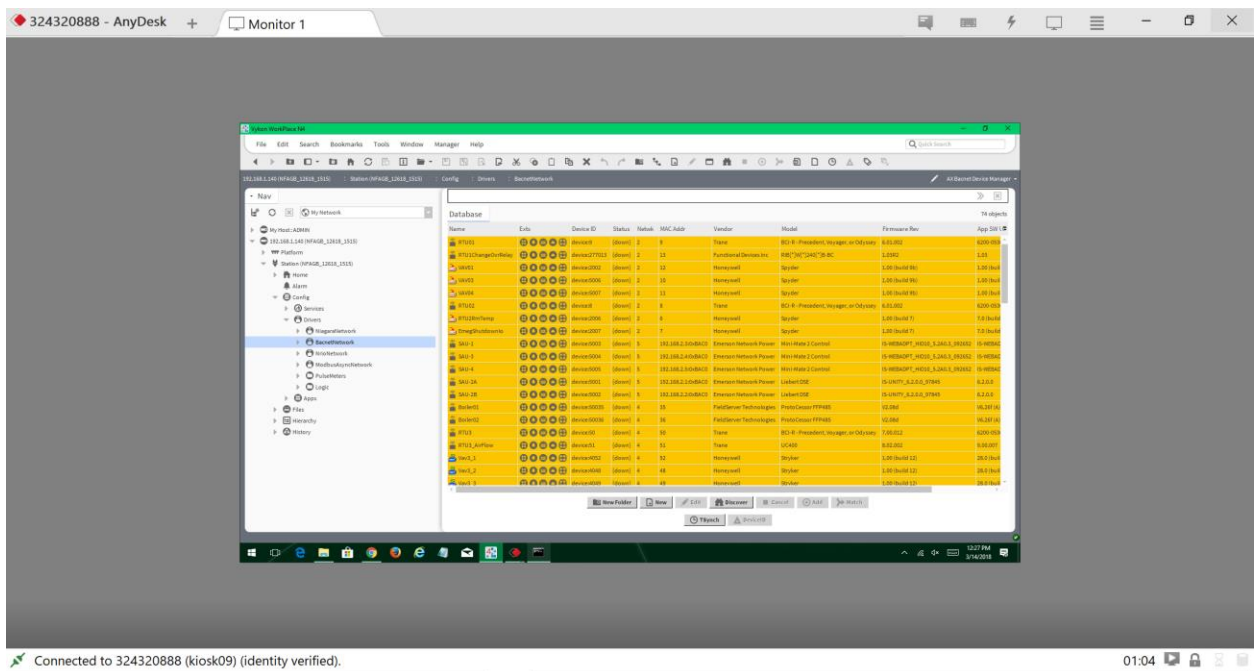
3. Click **BacnetNetwork** to configure this service for KE2 EM Series BACnet Gateway Services



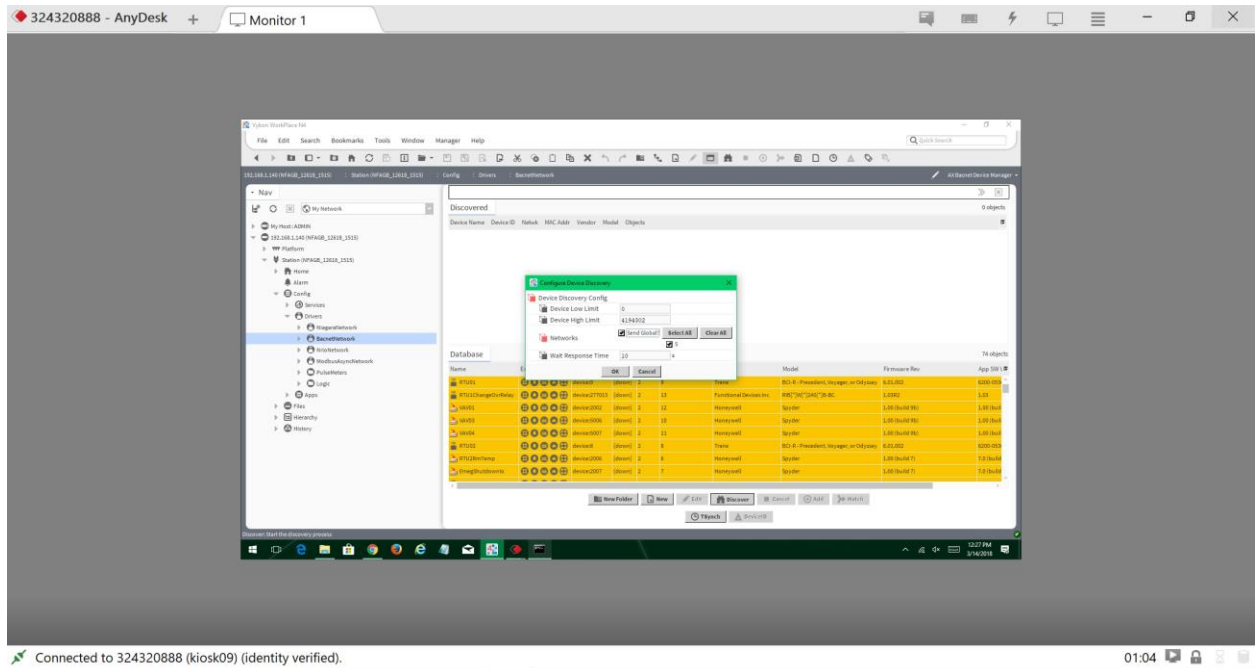
- Right click **BacnetNetwork**, then click sub-menu **Views**, then click **AX Bacnet Device Manager**.



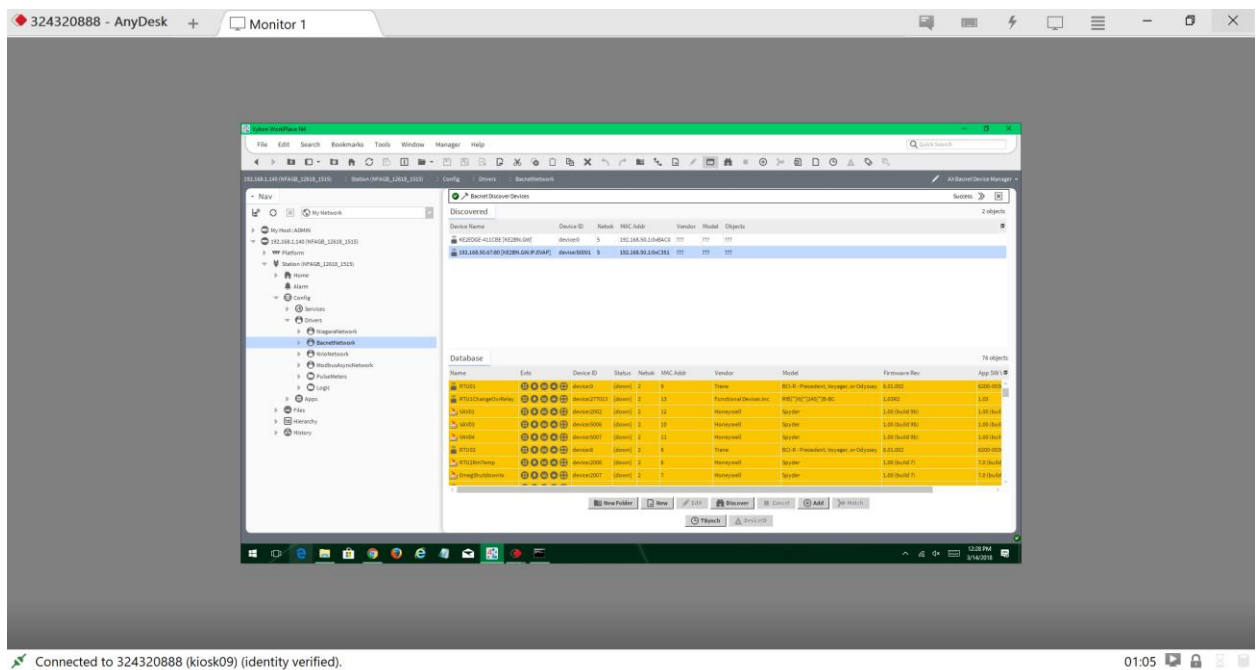
- Click **Discover** to automatically locate the controllers being presented by the EM Series BACnet Gateway Services



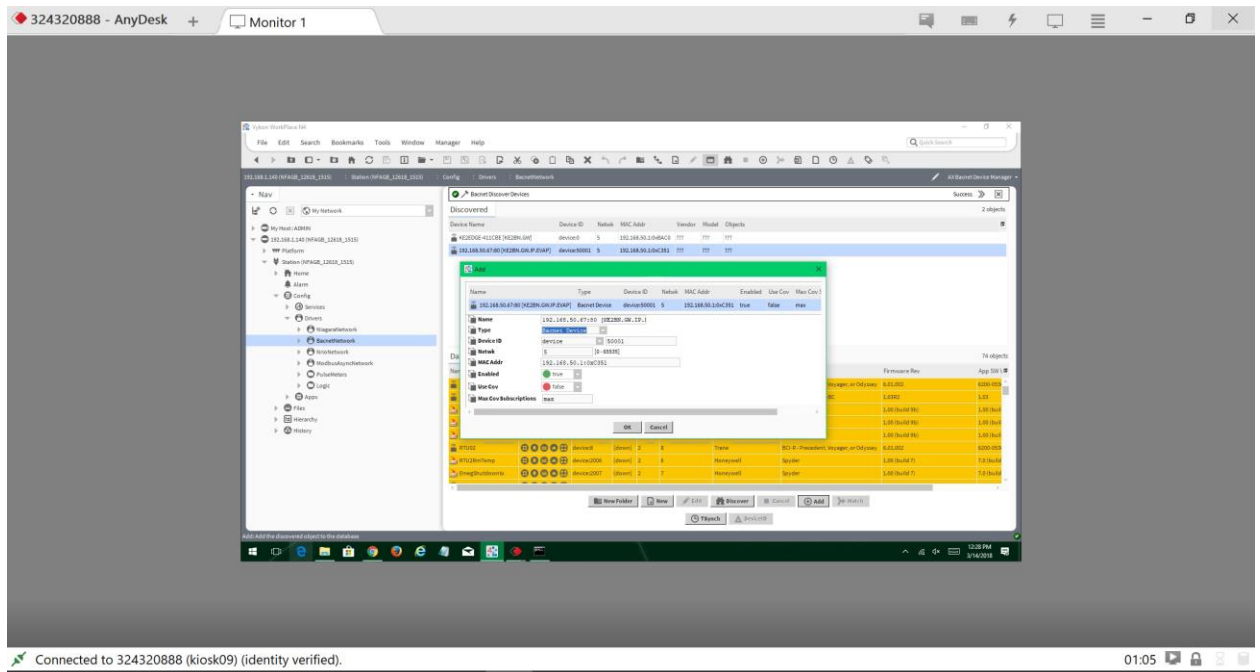
- You will have the option to configure the Discovery methods, however the default selections should work appropriately. If you have questions, or have a special configuration, please contact your Niagara support representative, or your local BMS/EMS controls admin / technician / engineer for site specific support.



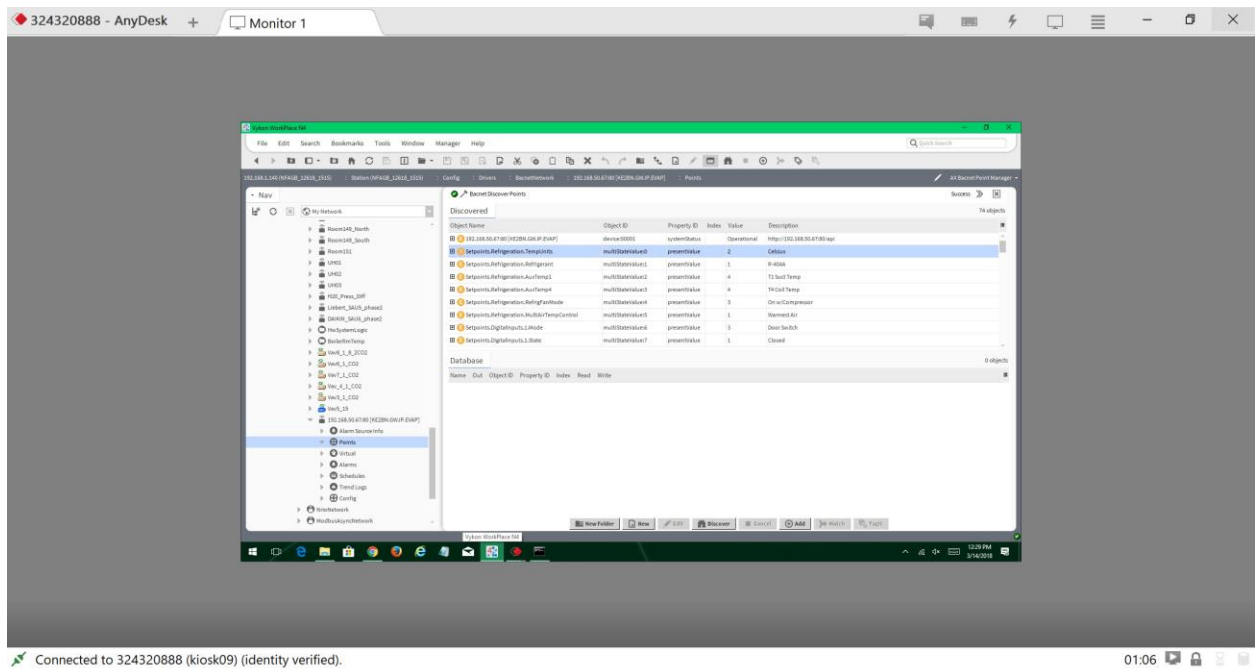
- Once the discovery process has completed, click on the KE2 Therm Controller(s) you want to monitor. You can select multiple controllers here as well. The KE2 Therm Controller(s) will be shown as follows: **KE2BN.GW.IP.EVAP** and will show a Device ID starting at/above 50000.



8. Now, click the **ADD** button to populate the KE2 Therm Controllers setpoints into the Vykon Manager BacnetNetwork. Make sure to set the device Type to **BACNET Device** and select **OK** when finished.



9. You should now see the KE2 Therm Controller(s) listed on the left navigation window. The BACnet points that have been discovered are listed on the right.



- 

You now have successfully completed the configuration of the EM Series BACnet Gateway services on the Niagara Vykon Management Platform



## FAQs for EMS/BMS Configurations:

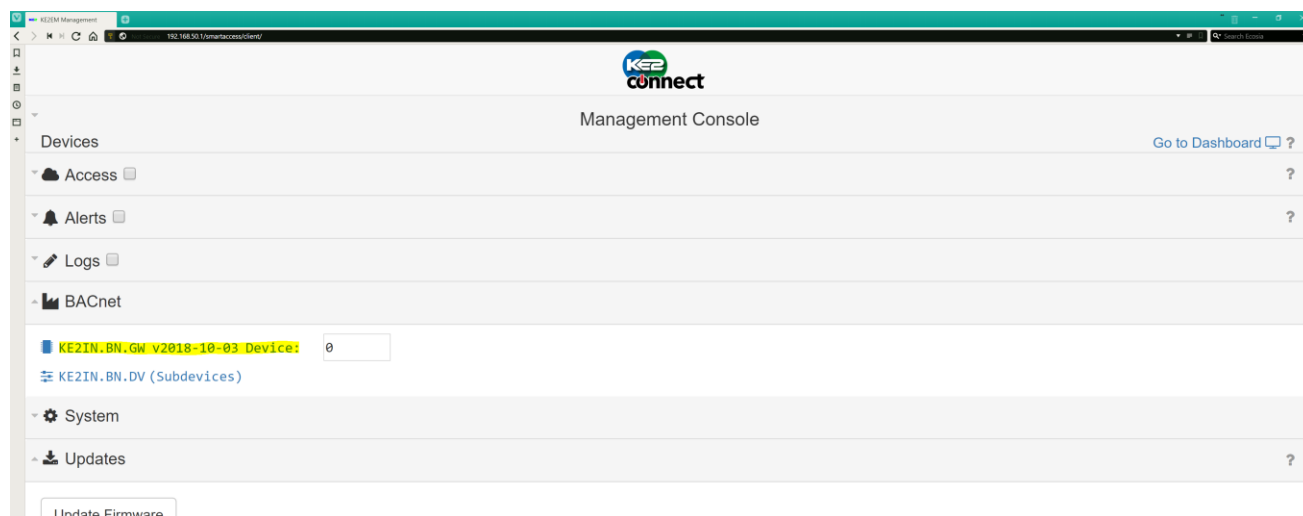
**Question 1:** I am seeing the controller(s) in my EMS/BMS, however I am not seeing the KE2 Therm Controller points updating. How can I check if the EM Series BACnet Gateway Service is working properly?

**Question 2:** I am receiving an error “WriteAccessDenied” from the EM while attempting to change setpoints using the EM Bacnet tool.

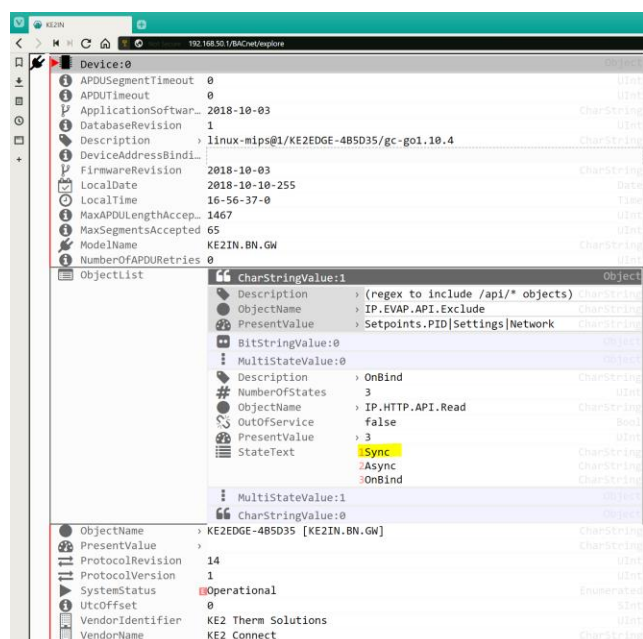
**Answer:** Make sure the EM Series BACnet Gateway services is in ***SYNC MODE***.

You can do this by connecting to the EM Series Gateway as described in STEP 1 above. Once connected, navigate to the Management Page (log in if necessary).

Under the BACnet menu, click on the **KE2BN.GW / DATE** object.



A new tab will display. Close your popup blocker if you do not see this page. In the ObjectList, locate the MultiState Value:0 and verify StateText is set to **Sync**.

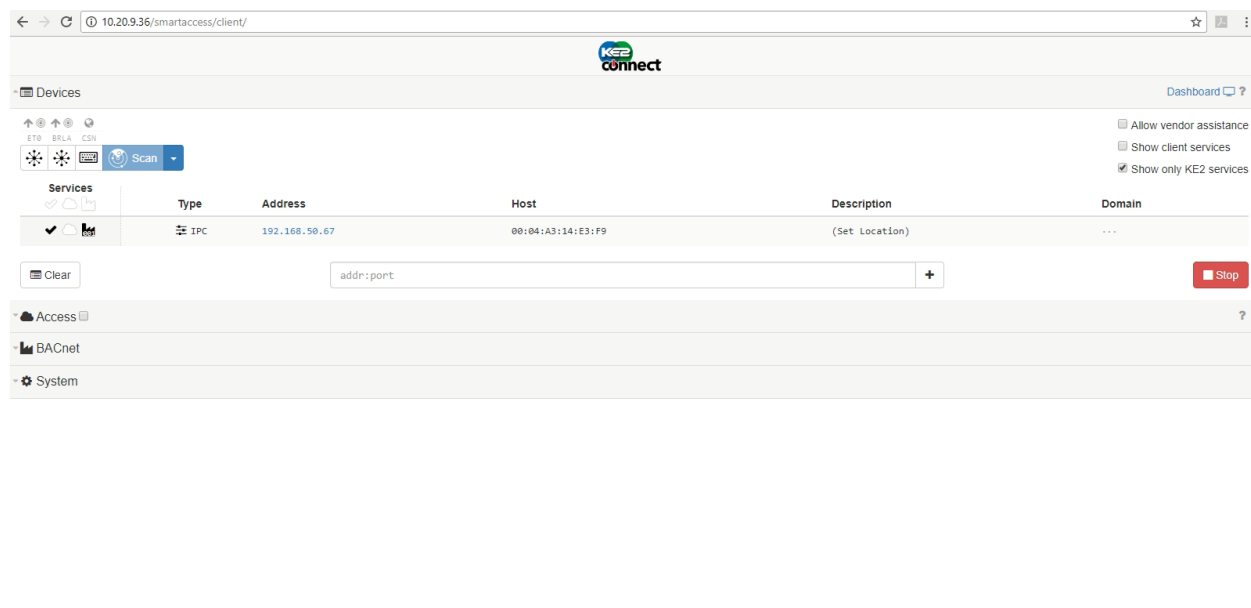


**Question #3:** Why don't I see the points updating immediately?

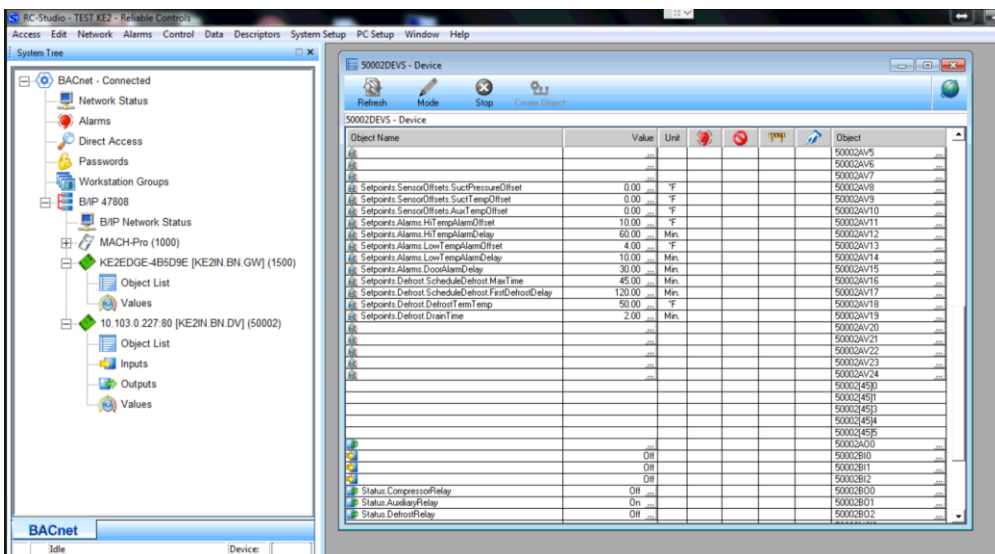
**Answer:** The EM Series BACnet services gateway can deliver controller updates REALTIME however, most BMS / EMS environments are configured to poll their devices at a much lower frequency for various reasons. These settings are configurable and can be accomplished but are out of the scope of this document. If you have questions, or have a special configuration requirement, please contact your EMS/BMS support representative, or your local BMS/EMS controls admin / technician / engineer for site specific software support.

**Question #4:** How can I tell if a KE2 Therm controller has been enabled for BACnet Services?

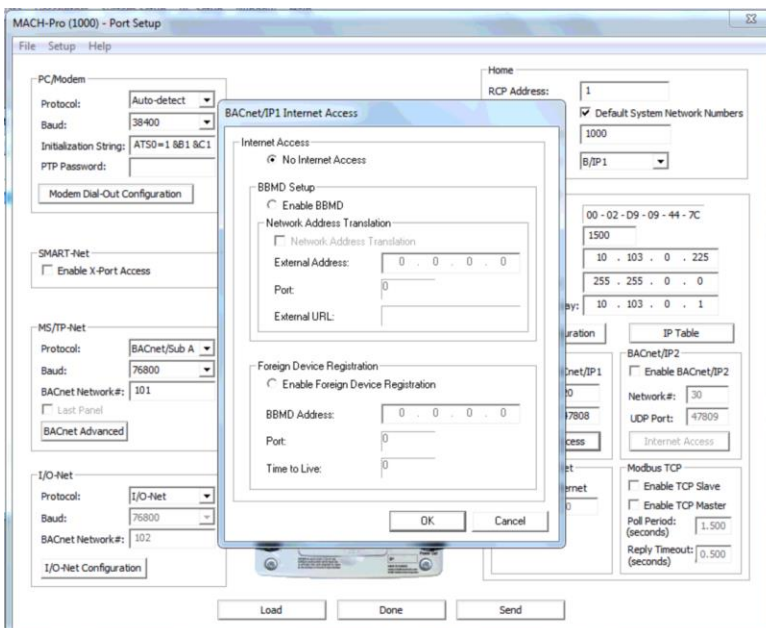
**Answer:** Look for the Industrial Building icon located next to the Controller listing. If it is enabled, it will be DARK black filled, with numbers. See example image below.



## Reliable Controls – RC Studio 2.0 Configuration



**DO NOT enable BBMD!!!! It will not work. This must be OFF**



50002DEVS - Device							
Refresh            Mode            Stop            Create Object							
50002DEVS - Device							
Object Name	Value	Unit					Object
	...						50002AV5
	...						50002AV6
	...						50002AV7
Setpoints.SensorOffsets.SuctPressureOffset	0.00	°F					50002AV8
Setpoints.SensorOffsets.SuctTempOffset	0.00	°F					50002AV9
Setpoints.SensorOffsets.AuxTempOffset	0.00	°F					50002AV10
Setpoints.Alarms.HiTempAlarmOffset	10.00	°F					50002AV11
Setpoints.Alarms.HiTempAlarmDelay	60.00	Min.					50002AV12
Setpoints.Alarms.LowTempAlarmOffset	4.00	°F					50002AV13
Setpoints.Alarms.LowTempAlarmDelay	10.00	Min.					50002AV14
Setpoints.Alarms.DoorAlarmDelay	30.00	Min.					50002AV15
Setpoints.Defrost.ScheduleDefrost.MaxTime	45.00	Min.					50002AV16
Setpoints.Defrost.ScheduleDefrost.FirstDefrostDelay	120.00	Min.					50002AV17
Setpoints.Defrost.DefrostTermTemp	50.00	°F					50002AV18
Setpoints.Defrost.DrainTime	2.00	Min.					50002AV19
	...						50002AV20
	...						50002AV21
	...						50002AV22
	...						50002AV23
	...						50002AV24
							50002[45]0
							50002[45]1
							50002[45]3
							50002[45]4
							50002[45]5
	...						50002A00
	Off						50002B10
	Off						50002B11
	Off						50002B12
Status.CompressorRelay	Off						50002B00
Status.AuxiliaryRelay	On						50002B01
Status.DefrostRelay	Off						50002B02

Other known BACnet Gateways currently tested and working with EM Series:



Tracer™ SC

Tracer™ ES



TRIDIUM

