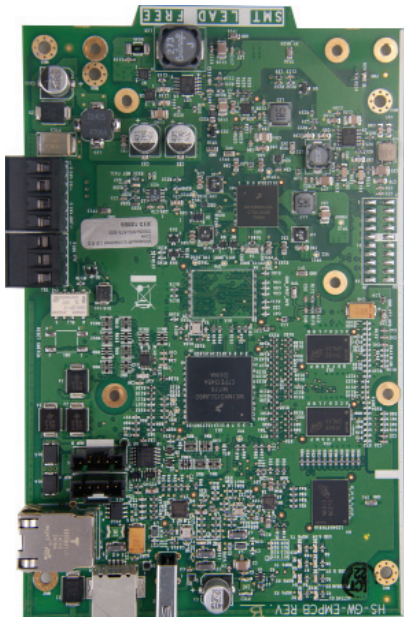


Vigilon BACnet Gateway kits (VIG-BNG & VIG-BNG-RW)

GENT
by Honeywell



The Vigilon BACnet Gateway kits VIG-BNG (with a read only board) and VIG-BNG-RW # (with a read-write board) provides an interface between BACnet client and GENT EN54 Vigilon fire detection and alarm system, using BACnet communication protocol.

General Data

Support	Up to 16 GENT EN54 Vigilon panels/nodes in a network with up to 15000 object counts, ie loop devices. BACnet Gateway Board cannot be installed in a Vigilon EN Network Node that is connected to WINMAG. BACnet gateway cannot be installed in an GENT BS Vigilon network node, as BS Vigilon systems are not supported.
Conforms	BACnet standard (135-2004) Annex J for IP to support Device objects, Life Safety Points/Zones and Multistate inputs/outputs, Multistate values, Binary values #
Power	24Vdc @ 270mA
Operating temperature	0°C to +49°C 93% humidity noncondensing at +30°C

Binary values on RW version are for Command build operation
BACnet protocol: see www.bacnet.org GENT protocol: Vigilon 3217 protocol

Parts supplied

① - ⑤ are parts supplied in a kit.

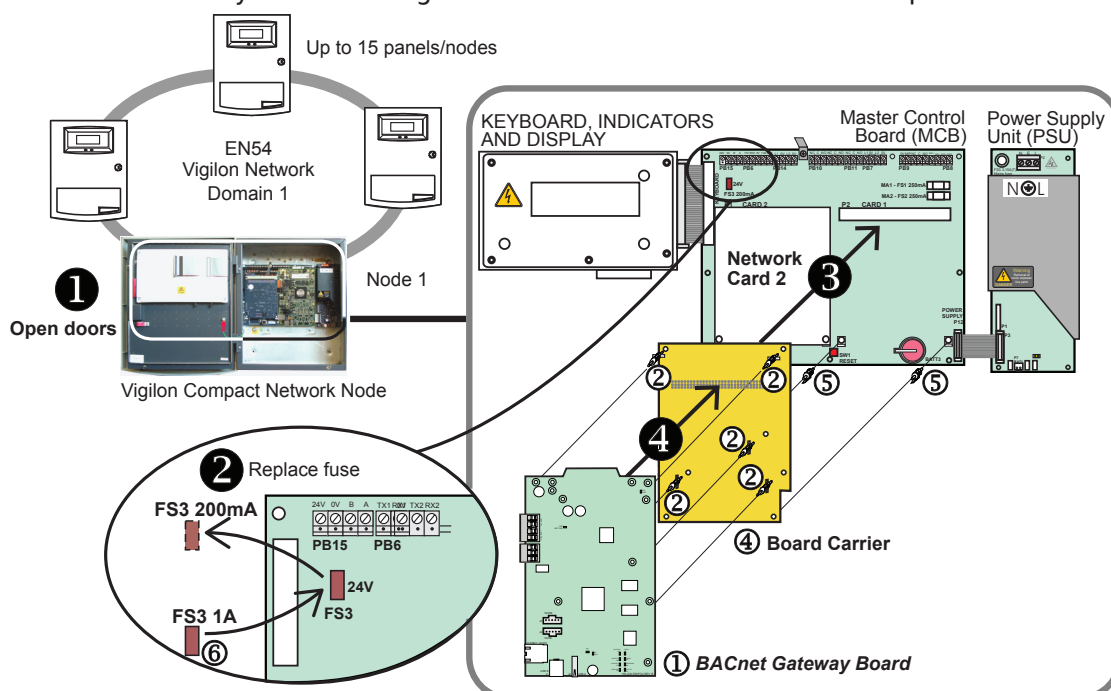
① - ④ are instruction steps.

- ① 1 x BACnet Gateway Board
- ② 5 x Board Spacers (for BACnet Board)
- ③ 1 x Cable assembly RS232

- ④ 1 x Board Carrier
- ⑤ 2 x Board Spacers (for Board Carrier)
- ⑥ 1 x 1A fuse
- ⑦ 1 x Red and black wires for power supply

How to install BACnet Gateway kit into a Vigilon Compact Network Node

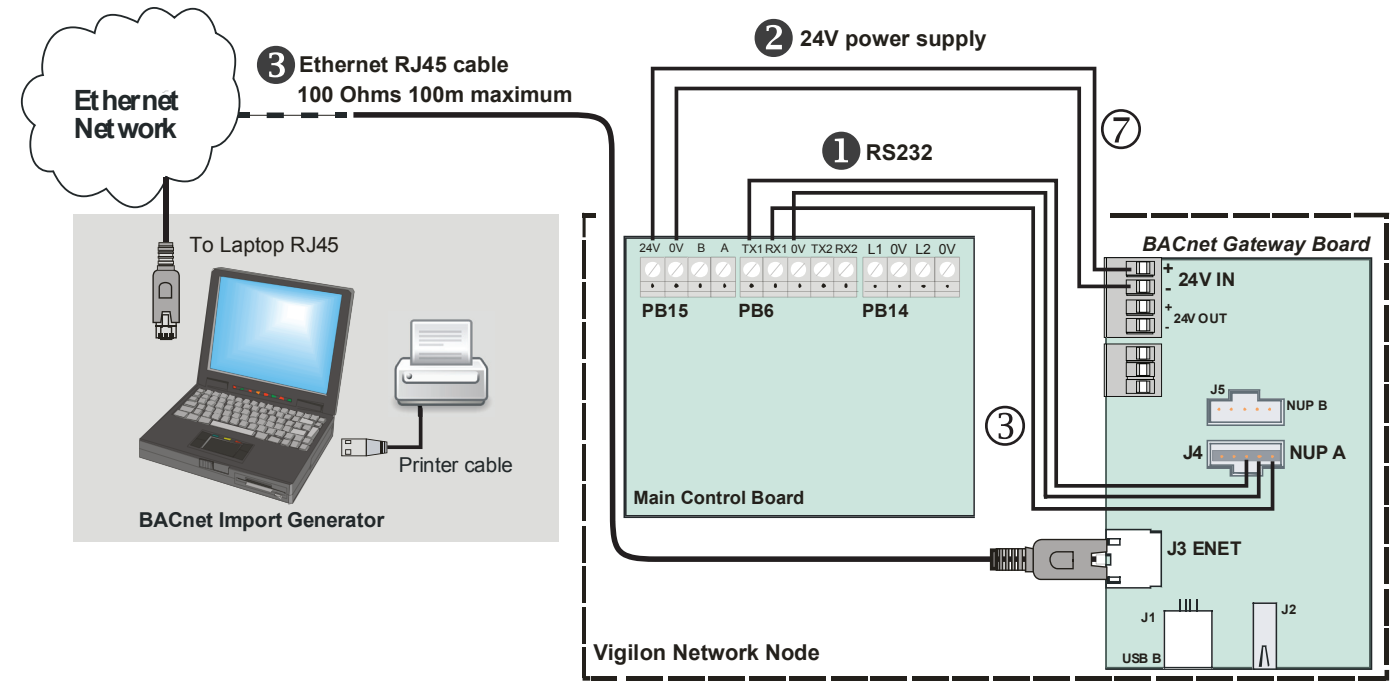
To install the BACnet Gateway kit inside a Vigilon Network node follow illustrated steps ① to ④.



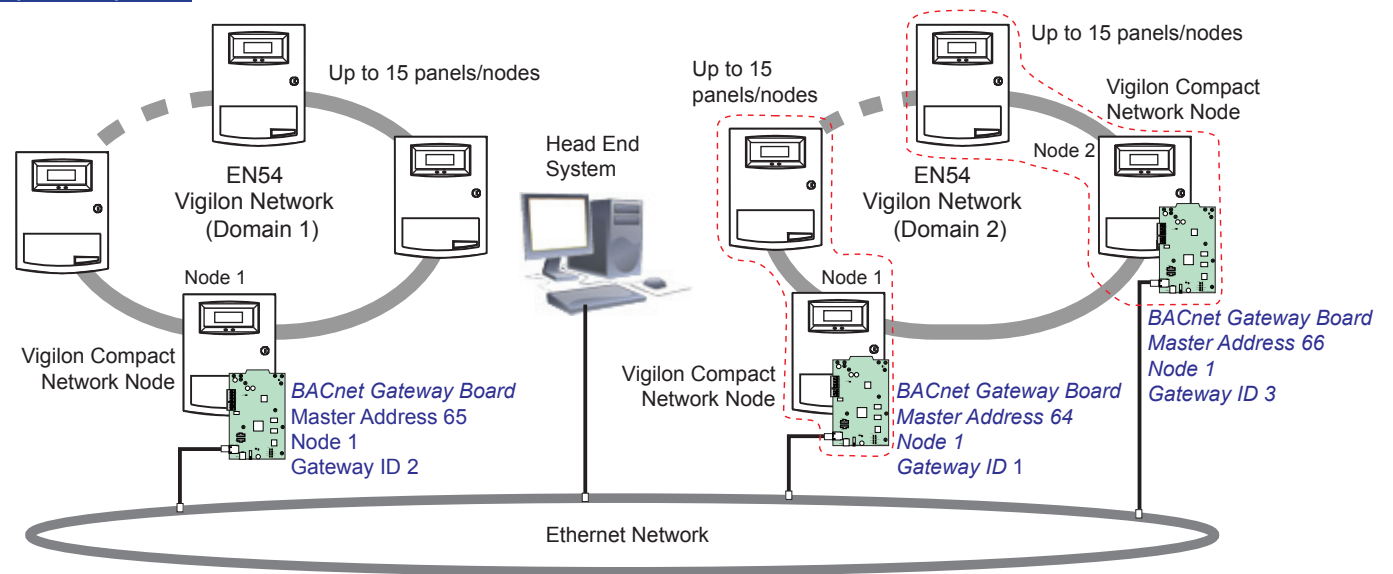
Installation

How to wire the BACnet Gateway Board

The BACnet Gateway Board connects to the GENT EN54 Vigilon Compact network node via RS232 serial port 1 set to 19200 baud and over a computer network to a Head end System via RJ45 Ethernet. To wire a BACnet Gateway Board follow illustrated steps 1 to 3.



Typical system



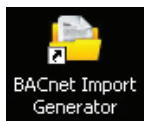
A Head End system resides on the customers Ethernet network, it monitors all the Vigilon fire alarm networks and provides graphical display.

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BACnet Import Generator

(V1.02)



The **BACnet Import Generator** is used to create and edit the files for transfer to **BACnet Gateway Board(s)**. The transferred files contain data for correct communication between the Ethernet network and the GENT EN54 Vigilon fire detection and alarm systems.

System overview

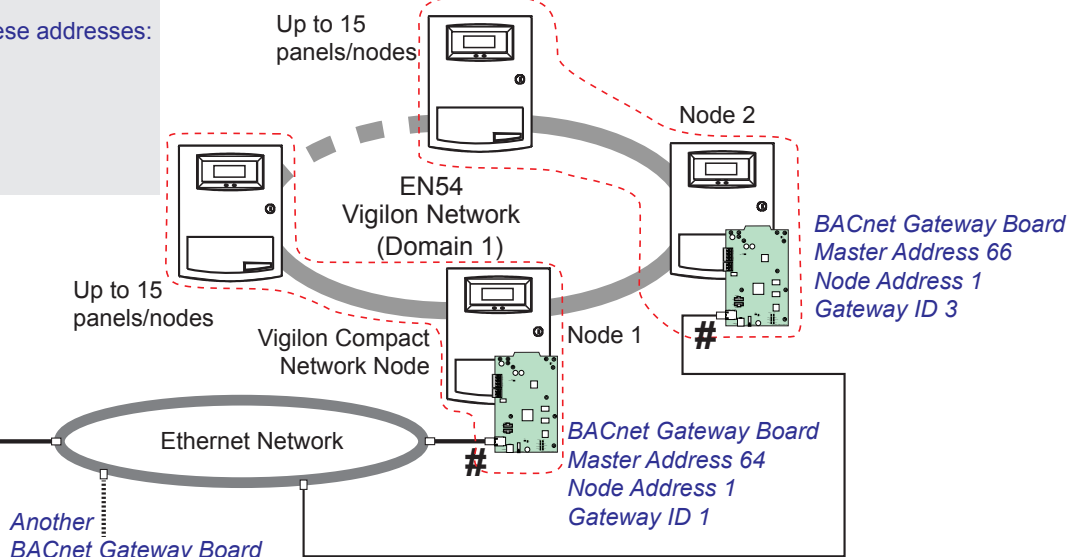
#

You will need to know these addresses:

- ☐ IP Address
- ☐ Routing IP Address
- ☐ Subnet mask
- ☐ Network Number
- ☐ Gateway ID

Computer to configure a
BACnet Gateway Board

BACnet
Import
Generator



The above illustration shows there can be more than one BACnet Gateway in a single EN Vigilon network.

Vigilon Panel software version

BACnet Gateway requires the following card software in the EN Vigilon Network nodes and EN Vigilon panels:

Card	EN Vigilon Network node - card versions	EN Vigilon panel - card versions
Main Controller Card	V4.41	V4.41
Loop Processor Card	N/A	V4.39
Network Card	V4.07	V4.07
Input Output Card	V4.12	V4.12

BACnet Gateway Board addresses

For each **BACnet Gateway Board** you will need the site specific connection addresses from the site's IT Network administrator:

	Factory set addresses (for retrieval of .ini files)	Default addresses (where site specific addresses are not required)	Site specific addresses acquired from Network administrator
Gateway IP address	192 . 168 . 2 . 5	192 . 168 . 2 . 5	: _____
Routing IP address		192 . 168 . 2 . 1	: _____
Subnet mask	255 . 255 . 255 . 0	255 . 255 . 255 . 0	: _____
BBMD IP address		192 . 168 . 2 . 210	: _____
BBMD Subnet mask		255 . 255 . 255 . 0	: _____
Network number		65533	: _____
Gateway ID.		1	: _____



You will need unique Network numbers and Gateway ID's if there are two or more BACnet Gateways in the system using the same BACnet client and subnet.

- ☐ You will also need the configuration files created for each Vigilon panel in the Vigilon network. These are the files and directories created from the Vigilon Commissioning tool for each panel.

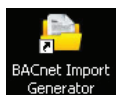
NOTE: Each EN Vigilon Compact network node belongs to a 'Domain' and the node that has the BACnet Board fitted must have the lowest node address in a Vigilon network.

BACnet Import Generator Software

To run the *BACnet Import Generator* you will need *.netframework 4* software installed on the Computer that will be used to configure a *BACnet Gateway Board(s)*.

- ☐ Check using windows **START -> Settings -> Control Panel -> Add / Remove** program to see if *.netframework 4* is installed on the Computer.
- ☐ If you need *.netframework 4* software then it can be downloaded from <http://www.microsoft.com/net> website. Install *.networkframework 4* on the computer.
- ☐ Download the *BACnet Import File Generator* software from www.gentexpert.co.uk website. Install the software on the Computer.

Run the BACnet Import Generator

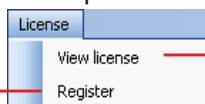


Click on the *BACnet Import Generator* icon to launch the *BACnet Import Generator*.

Register the BACnet Import Generator

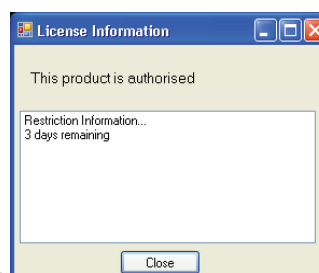
To register the *BACnet Import Generator* carry out steps ① to ③ as shown below.

- ① Select **License - Register** and make a note of the 'User Code'. Call or email Gent Technical Support and exchange the User code for a 'License key'.

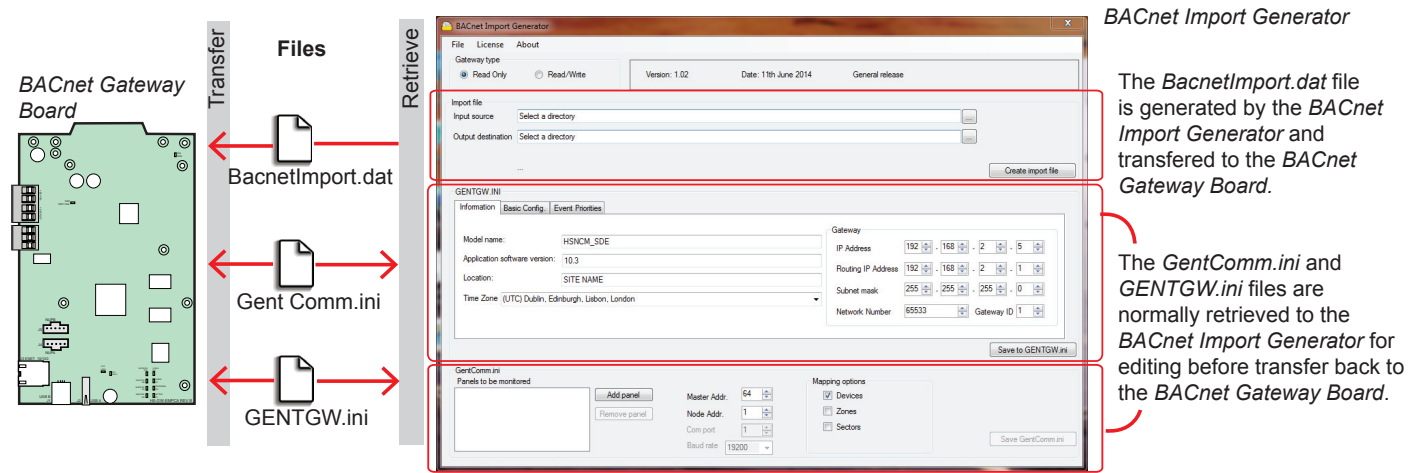


- ③ Select **View License** and check to ensure the License has installed.

- ② Enter the 'License key' here and select the 'Validate' button.



Overview of files retrieval and transfer



How to configure a BACnet Gateway

File menu

Load

Select **File -> Load** and navigate to the respective **Output** destination directory to select previously saved *.ini* files associated with a Vigilon network. Once loaded these files can be edited and then transferred back to the *Bacnet Gateway Board*.

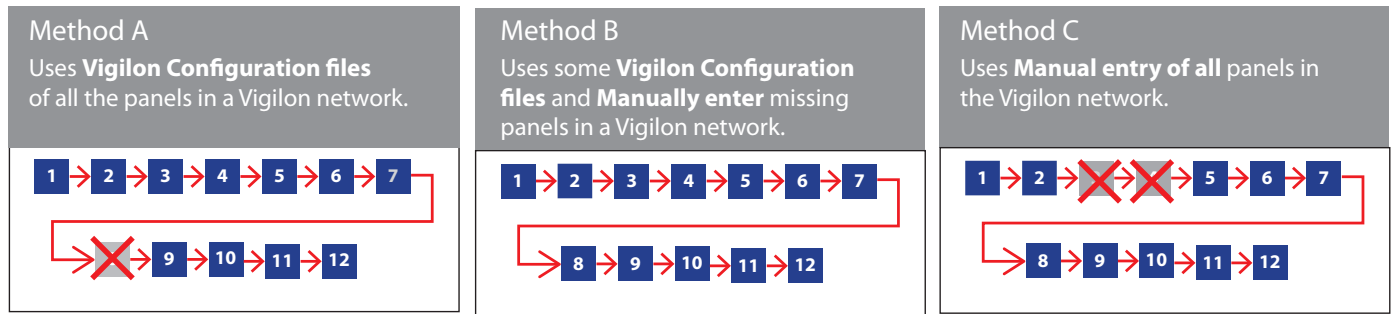
Save

Select **File -> Save** and navigate to an **Output** destination directory to which the edited *.ini* and *.dat* files are saved.

New

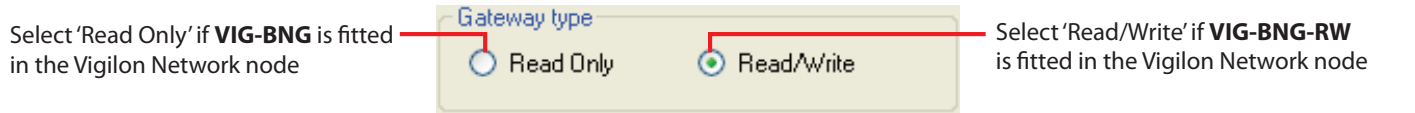
It is good practice to select **New** to clear previous settings in *BACnet Import Generator* to factory default values when working on new files. Select **File -> New** and note the settings in *GENTGW.ini* and *GentComm.ini* revert to factory default values.

Methods



1 Select the Gateway type

The Gateway type is determined by the *BACnet Gateway Board* fitted in the Vigilon Network Node.



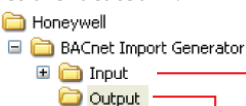
2 Create **Input** Source and **Output** destination directories

The **Input** source directory holds the Vigilon configuration and the **Output** destination holds the *GENTGW.ini* and *GentComm.ini* files, along with the *BacnetImport.dat* file.

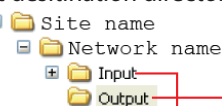


The files in the default **Output** destination directory are overwritten each time the *.ini* files are saved. Therefore it is necessary to create a unique location having the **Input** and **Output** directories for each Vigilon network.

The default **Input** source and **Output** destination directories are located in:
C:\Program Files\



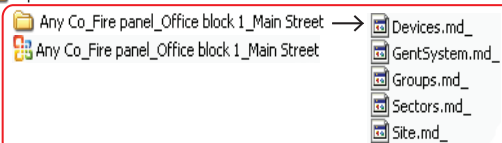
You will need to create site specific fire alarm network's own **Input** source and **Output** destination directories
x:\xxxxx\



3 Copy the Vigilon Configuration files to the **Input** directory

The *BACnet Gateway Board* needs to know about all the Vigilon panels in the Vigilon network. The *BACnet Import Generator* makes use of these files to populate the initial settings in the *GentComm.ini* file on retrieval. The populated data includes all the panels in the Vigilon network and their addresses.

Save copies of the **Vigilon Configuration** files and directories of all the fire panels in the Vigilon network to the **Input** source directory



Typical structure of the Vigilon configuration files copied to the **Input** source directory of a Vigilon panel.

Another Vigilon panel

4 Create *BACnetImport .dat* file

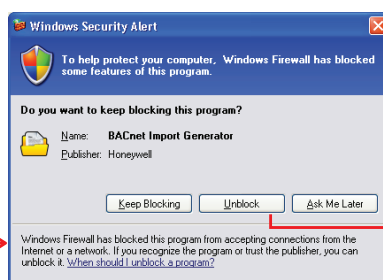
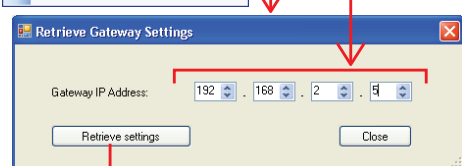
Click on the **Create import file** button and note a *BACnetImport.dat* file is created and appears in the **Output** destination directory. Note the working fields of the *GentComm.ini* file are automatically populated with data from the Vigilon Commissioning files in the **Input** Source directory.

5 Retrieve *GENTGW.ini* and *GentComm.ini* files

Select **File -> Retrieve Gateway settings** to retrieve the *GENTGW.ini* and *GentComm.ini* files from the *BACnet Gateway Board*. These files are then held in a working location for editing.



The Gateway IP address of a factory set *BACnet Gateway Board* is: **192 . 168 . 2 . 5**
If the Board was previously given an alternative address, then enter the alternative address here.



Only retrieve the *GentComm.ini* if you want to get the current file in the *BACnet Gateway Board*, as this action will overwrite any panels that were previously set by creating the *BACnetImport.dat* file.

The respective *GENTGW.ini* and/or *GentComm.ini* files are retrieved from the *BACnet Gateway Board* and the appropriate fields in the *BACnet Import Generator* are populated.

If a firewall security alert is displayed then select **Unblock**.

6 Edit the *GENTGW.INI* file

Edit the gateway specific *GENTGW.ini* file data, ensure the fields under the **Information** tab are filled. Enter the Model name, Application software, Location and timezone. Set the required Gateway IP Address, Routing IP Address. **Information Tab**

1 Enter the site name

3 Enter Gateway Addresses

2 Select the country time zone

GENTGW.INI

InformationBasic ConfigEvent Priorities

Model name:HSNCM_SDE

Application software version:10.3

Location:SITE NAME

Time Zone:(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London

Gateway

IP Address19216825

Routing IP Address19216821

Subnet mask2552552550

Network Number65533Gateway ID1

Basic Configuration Tab

Enter BBMD Device IP Address and Subnet mask. This data can be acquired from the sites Network Administrator. BBMD (BACnet Broadcast Management Device) is required when the Gateway is on a different Subnet to client.

InformationBasic ConfigEvent Priorities

BBMDDevice

IP Address1921682210

Subnet mask2552552550

Event Priorities Tab

Normally the event priority settings should not be changed and they are shown for reference here.

Range 0-31

Range 32-63

Range 64-95

Range 96-127

Range 128-191

Range 192-255

InformationBasic ConfigEvent PrioritiesPreferences

Reliable Fire Alarm17

Panic Alarm7

Life Safety PreAlarm24

General Alarm31

Life Safety return to normal31

Property Process Alarm63

Property Return to Safety Alarm63

Fire Supervision95

General Supervision95

Early Warning Alert95

Supervisory return to normal95

Process Trouble127

Fire Trouble127

Trouble return to normal127

Equipment Superv. and Mon.191

System Status Active192

Set to defaults

WARNING: These event priority settings should not normally be changed

To return all the settings factory default values press the 'Set to default' button.

Preferences Tab (applicable to Read/Write BACnet Gateway Board only)

Check the **Subfault** and **Prefire** events if they are required to be displayed at the Head end system. A prefire is a condition resulting from small signals of fire detection that is at a higher sensitivity than the selected STATE of detection. A sub fault is a signal that can result from noise and environmental condition.

InformationBasic ConfigEvent PrioritiesPreferences

☐ SubFaults

☐ Prefires

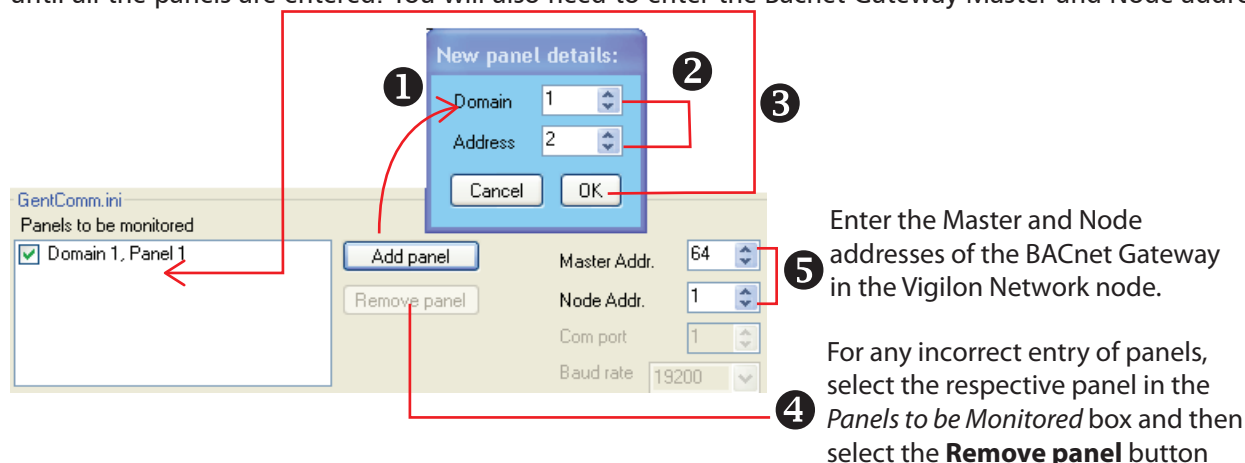
7 Create the *GENTGW.ini* file

Select **Save to GENTGW.ini** button to save the *GENTGW.ini* data edited in the step 6 to the **Output** destination directory. For information on the Output directory see Step 3.

8 Manually enter Vigilon panels

You can manually add all the panels in a Vigilon network or in the absence of some Vigilon Configuration you can manually add the missing Panels, see 'Methods' section for information on when to manually add Panels. The loop devices on the manually added panels are learnt by the system, the learning process can take some time.

Click on **Add panel** ❶ and enter the panel and domain addresses ❷ and then select **OK** ❸. Repeat the process until all the panels are entered. You will also need to enter the Bacnet Gateway Master and Node addresses ❺.

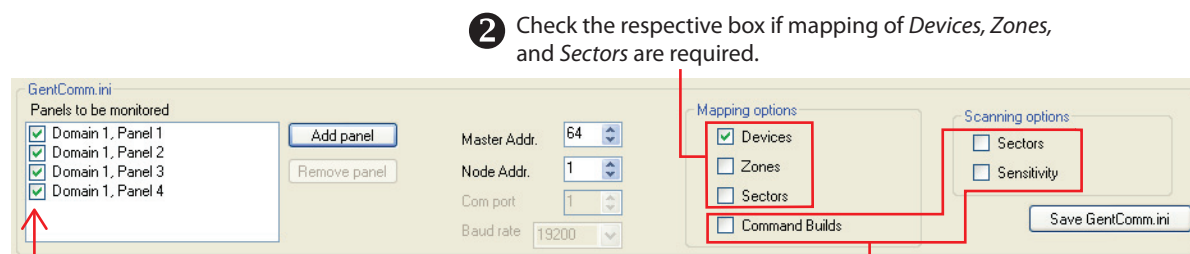


Enter the Master and Node addresses of the BACnet Gateway in the Vigilon Network node.

For any incorrect entry of panels, select the respective panel in the *Panels to be Monitored* box and then select the **Remove panel** button

9 Edit the *GentComm.ini* file

You can edit the *GentComm.ini* file by editing the setting in the following dialogue box, in particular by changes to the settings of the mapping and scanning options.



❶ Uncheck the respective panel if it is NOT required to be monitored for the mapping and scanning options.

❷ Check the respective box if mapping of *Devices*, *Zones*, and *Sectors* are required.

❸ These options appear for a **Read Write BACnet Gateway Board** only. Check the required boxes. For example where scanning of Sector alarms status is required then check the *Sectors* box, similarly for Sensor Sensitivity state check *Sensitivity* and mapping of Command Build check *Command Builds*.

☐ If the scanning option 'Sectors' is checked then the alarm status of the Sectors is passed on to the Head End System.

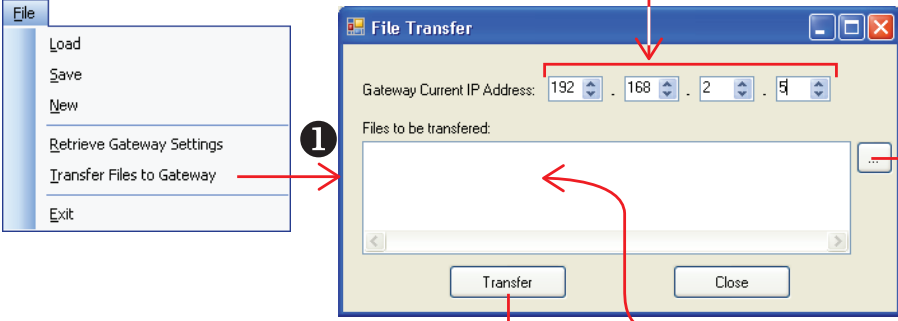
☐ If the 'Sensitivity' box is checked then the sensitivity STATE of each sensor on the panel loops are passed on to the Head End system.

10 Create the *Gentcomm.ini* file

Select **Save to GentComm.ini** button to save the *GentComm.ini* file to the **Output** destination directory, see step 2 for information on the **Output** destination directory.

11 How to transfer the files to the *BACnet Gateway Board*

You can selectively transfer the .ini and .dat files from the *BACnet Import Generator* to the *BACnet Gateway Board*. Select **File -> Transfer Files to Gateway** to transfer the selected .ini and .dat files to the *BACnet Gateway Board*.



1

2

3

4

The Gateway IP address of a factory set *BACnet Gateway Board* is: **192 . 168 . 2 . 5**
If the Board was previously given an alternative address, then enter the alternative address here.

Select all three or the required .ini and .dat files for transfer and then click **Open**.
Note the selected files are listed in the **'Files to be transferred'**.


Click the Transfer button and note the selected .ini and .dat files are transferred to the *BACnet Gateway Board*.

12 Startup messages and normal indications

Restart the BACnet Gateway and observe the Network node display gives startup messages as shown below. Ensure normal LED indications are given on the BACnet Gateway Board.

If the Ethernet cable is faulty or disconnected then to Vigilon Network Node will display the following message:
"Ethernet Cable Disconnected"

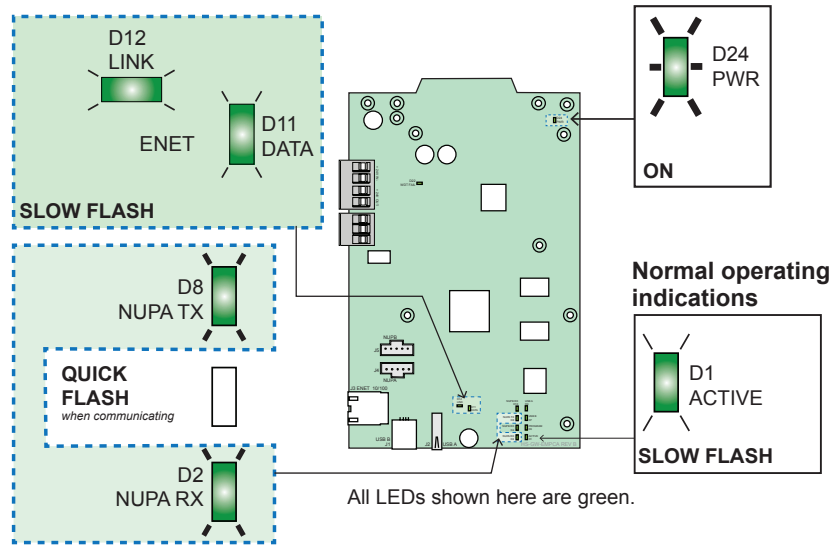
Typical start up messages on the Vigilon Network Node display



```
Fault x  Disable y  Warn z
Time:13:45.44  Tue  21 October 2014
Master polling
Initilising Gateway
Panel = x
Status = 
```

Mapping Cards
Mapping Devices
Mapping sector
Mapping Zones
Mapping Devices to Zones
Mapping Alarm Config
Mapping Command builds
Gateway Mapping Complete

Typical indication at the BACnet Gateway Board



Trouble shooting

1. Ensure the BACnet Gateway Board is correctly fitted inside the Network node and check fuse FS3 was replaced.
2. Check all the wiring to the BACnet Gateway Board and to the MCB inside the Network Node.
3. Check to ensure normal operating indications are given on the BACnet Gateway Board.
4. Ensure the Vigilon Network Node has port 1 set to 19200 Baud & Standard Mode with correct Domain and Node address.
5. Check the Vigilon Network node has given the start up messages and ended with Master polling message and Gateway mapping complete.
6. Ensure IP addresses and Gateway ID entered in the tool were correct before creating the .ini files.
7. Check to ensure the .ini files were created using the latest Vigilon Configuration files and the method used and steps taken were correctly followed, see Method section
8. Ensure the network adapter card in the laptop is setup with correct IP address and Net Mask.
9. If the tool fails to connect to the gateway when transferring files then recheck the Gateway IP address specified is the Current IP address is correct.
10. Ensure ethernet cable is connected and there is *no "Ethernet Cable Disconnected"* message on the panel.

Head End system

On completion of the above configuration you will need to test the Head End system to ensure it gives the required indications of the fire alarm systems.

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