

Product overview -

The VWG-40 and related wireless thermostats are targeted to retrofit applications where the addition of communicating field bus wiring within the building space is prohibitive. The Gateway and Communicating Thermostats with wireless field bus encourages the use of existing wiring utilized by existing electronic thermostat type controls.



The VWG-40-XX-1000 when utilized in conjunction with the VT7xxxXxxxW series wireless thermostats will offer the integrator simple BACnet IP or BACnet MS/TP objects to integrate over standard building automation systems using familiar integration toolsets.

A maximum of 30 wireless thermostats can be wirelessly attached to a single VWG

The following additional documentation is available on www.viconics.com

- Gateway BACnet integration guide (VWG-40-IP & VWG-40-MSTP), is available in document ITG-VWG-40-BAC-Exx
- Information on VWG hardware installation is available in document LIT-VWG-40-INSTALL-Exx

Part available —

Part number	Description		
VWG-40-IP-1000	Viconics BACnet over IP wireless gateway. Includes:		
	- Supports up to 30 wireless thermostats		
	 Factory mounted wireless adapter 		
	- 24 Vac panel mounted power supply		
	- Gateway mounted antenna		
VWG-40-MSTP-1000	Viconics BACnet RS485 MS-TP wireless gateway. Includes:		
	- Supports up to 30 wireless thermostats		
	 Factory mounted wireless adapter 		
	- 24 Vac panel mounted power supply		
	- Gateway mounted antenna		
VWG-40-LON-1000	Viconics LON wireless gateway. Includes:		
(Upcoming)	- Supports up to 30 wireless thermostats		
	 Factory mounted wireless adapter 		
	 24 Vac panel mounted power supply 		
	- Gateway mounted antenna		
VWG-APP	Interface software for VWG configuration and set-up. Operates under Windows XP [™] . Uses a LAN crossover IP connection for initial set-up.		
VWG-RA	Remote antenna for gateway when the gateway is installed inside a metal cabinet or when remote antennal mounting is required by physical installation		
VWG-WA	Replacement antenna for gateway mounted antenna setup		
VWG-PS-DC	24 Vac to 15 Vdc panel mounted power supply for VWG		
VWG-PS-AC	120 Vac to 15 Vdc power supply for VWG with cord		
VWG-BB	Replacement battery backup pack for the VWG		

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Electronic controls are static sensitive devices. Discharge yourself properly before manipulation and installing the Viconics wireless gateway.

All Viconics wireless gateways and related wireless thermostats are to be used only as operating controls. Whenever a control failure could lead to personal injury and/or loss of property, it becomes the responsibility of the user to add safety devices and/or alarm system to protect against such catastrophic failures.

All VT7000 series wireless thermostats and associated VWG (Viconics Wireless Gateway) have been rigorously tested to ensure reliable operation in most building applications using the latest 2.4 Zigbee technologies. Viconics cannot guarantee against potential network interference should additional wireless systems be deployed sharing close proximity.

Best practices covered in this manual and all related Viconics VWG documents should be considered as a guide to apply Viconics Wireless Network devices only. The instructions included in this manual are based upon Viconics in house testing and should be referred to as a guide only.

Viconics Inc. may not be held liable for continued reliable, or robust operation of any and all wireless based devices. Although Viconics has taken many precautions in assuring the robustness of the VT7000 series wireless thermostat product line and associated network access point (VWG-40-XXXX-1000) Please note; future application of additional wireless devices utilizing the same or similar channels and / or frequencies may degrade performance of overall system and / or reliability.

Non-approved modifications or changes made to the VWG or wireless thermostats may void the FCC compliance of the VWG and wireless thermostats.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION. The Viconics Wireless Gateway (VWG) and related wireless thermostat family (VT7xxxXxxxW) networkable devices operate using ZigBee/IEEE 802.15.4 physical layer for communication.

General characteristics of the wireless physical communication layer are:

- Uses a wireless physical layer of 2.4GHz with a data rates of 250 kbps
- Yields high throughput and low latency
- Automatic multiple topologies configuration: star, peer-to-peer, mesh
- Fully handshake protocol for transfer reliability
- Range: 30 feet / 10M typical (up to 100 feet / 30 M based on environment)

IEEE 802.15.4 along with ZigBee's Network and Application Support Layer provide:

- Low cost installation deployment
- Ease of implementation
- Reliable data transfer
- Short range operation
- Very low power consumption
- Appropriate levels of security

The VWG acts as network coordinator device for the IEEE 802.15.4/ZigBee network used with the Viconics wireless thermostats.

Many network specific features of the IEEE 802.15.4 standard are not covered in detail in this paper. However, these are necessary for the efficient operation of a ZigBee network. These features of the network physical layer include receiver energy detection, link quality indication and clear channel assessment. Both contention-based and contention-free channel access methods are supported with a maximum packet size of 128 bytes, which includes a variable payload up to 104 bytes. Also employed are 64-bit IEEE and 16-bit short addressing, supporting over 65,000 nodes per network. All those properties of the physical layer are used and employed by the Viconics mesh network but are hidden to the installed / user for ease of configuration and commissioning of the network database.

A maximum of <u>30</u> networkable thermostats can be supported by a single VWG. Database creation and configuration is easily made using a Viconics software appliance that communicates with the VWG.



Proper design considerations need to be addressed prior to any installation of a Viconics Wireless Gateway (VWG) and related wireless thermostats.

- 1. To properly avoid network interference with 802.11 Wi-Fi devices in the 2.4GHz spectrum range, Viconics recommends the use of 802.15.4 channels 25 and 26 only. 802.11 Wi-Fi transmissions overlap and may interfere with other channel selection allowed by 802.15.4 (Channels 11 to 24)
- 2. Maximum distance between each node (thermostat) should be:
- Clear line of sight between 2 nodes should be under 100 feet (30 M)



Non line of sight, typical wall gypsum wall partitions made with metal stud frame should be under 30 feet (10M)



3. Ensure that the minimum distance between any Viconics node and any Wi-Fi devices (wireless routers, wireless adapters, lap-tops using wireless networks, etc....) to be at least 3 foot (1 M) and preferably 10 feet (3 M) or more.



- 4. Ensure that at least one thermostat is within 30 feet of the VWG for every cluster of 10 thermostats installed.
- 5. Always try to locate if possible the VWG near the center of all associated wireless thermostats.
- 6. Always try to locate the VWG near on in line of sigh to as many wireless thermostats as possible.
- 7. Try to avoid metal, brick walls or concrete obstructions between wireless devices as much as possible.
- 8. Make sure the antenna on the VWG is always perpendicular to the floor.
- 9. Avoid placing VWG and thermostats near metal or enclosed in metal boxes. If the VWG needs to be installed inside a metal cabinet, use the remote antenna accessory.
- Ex. 30 wireless thermostats total. A minimum of 3 of them should be within 30 feet (9 M) of the VWG range.



Gateway Configuration -

Initial Connection

Install the software on the CD provided with the VWG. The setup will guide you through the necessary installation steps. The minimum system requirements for installation are:

- An Ethernet adapter with TCP/IP support
- A WEB browser installed.

IMPORTANT NOTE: Unless updated (Jar files), the tool used to service or commission the VWG should always be the one originally supplier with the VWG

An Ethernet TCP/IP connection to the VWG is required for commissioning. For this initial Ethernet connection, you can use either:

- A "crossover" cable connected directly between your PC and the VWG
- A normal LAN connection, meaning that both your PC and the VWG are physically connected to the same Ethernet hub or switch.

As shipped from the factory, a VWG contains only the bare minimum software to run the wireless gateway application. The gateway does *not contain* a Java Virtual Machine runtime environment, a WEB UI interface or any additional software modules. A VWG *does* include a core Niagara software load and a Tridium certificate. Using the supplied software appliance, you must connect to the VWG for initial configuration. Some important related tasks including setting the VWG IP network address and related wireless database setup can only be accomplished using this software appliance.

Initial IP address When shipped, a new VWG is pre-configured with an IP address in the range of: 192.168.1.12*n* (*primary* "LAN1" port, the "LAN2" port is disabled) where the last numeral (*n*) in the IP address matches the last numeral in the VWG *serial number*. The VWG serial number can be found directly on the label inside the VWG. In all cases, the default subnet mask is: 255.255.255.0.

Two areas of preparation are required before proceeding with the configuration. Provide power and connectivity. After you complete the commissioning process described in this document, you can mount and wire the VWG controller at the job site, making permanent mounting and wiring connections.

To prepare a new VWG for commissioning, do the following steps:

- 1. If not already installed, install the supplied Viconics Configuration Software on your local host PC machine.
- 2. Attach one end of a standard category-5 Ethernet unshielded twisted pair (UTP) patch cable to the RJ-45 Ethernet connector on the VWG.
- 3. Attach the other end of the patch cable to a network port or directly to an Ethernet hub.
- 4. Power up the VWG.
- Record you PC's current IP settings, then re-assign your PC's IP address for its Ethernet LAN adapter (if necessary, refer to Windows online Help for information about configuring TCP/IP settings).
- 6. For this initial connection to a factory-shipped VWG, configure your PC to use an IP address in the same subnet as the VWG, as well as a matching subnet mask.
- Set the IP address in the range: 192.168.1.1 to 192.168.1.254 with a subnet mask of: 255.255.255.0
 Note: *Do not* assign your PC the identical IP address as the VWG factory-assigned IP address.
- 8. From your PC, start the Configuration software. (under Start\Viconics Configuration Tool Setup 1.X.X

When the Configuration software tool is first started, it will automatically search its subnet for any present VWG. This process takes a few seconds to be accomplished.

VICONICS Configuration Tool - Connect to Vic VICONICS Viconics Configuration Tool - Connect to Viconics 31.30.1.7.2.1	onics Wireless Gateway	X
Court	s for Costrollers	
	Concerning, please wat	
	Cancel	

When done, a list of VWG present on the subnet will appear. For a VWG to appear on this list, its internal IP gateway IP address must be set to your network value.

If no VWG show up on your list you can manually enter the IP address of the VWG in the log on page.

Manufac Configuration T	al Constants Manufacture Colonia	
Viconics Configuration Te Version 3.1.30.1.7.2.1	ool - Connect to Viconics Wireless Gateway	
	Search for Controllers	
	Station Name - Address Version Host Model	
	VWSBACHedHSTP 209.89.137.182 3.1.30 NPM2	
	OK. Cancel	
	\cap	

The last numeral (*n*) in the IP address matches the last numeral in the VWG serial number value as indicated on the label inside the VWG. The default factory user name is: **admin.** There is no default password. A blank entry should be used for the first log on.

Wiconics Configuration Tool	
VICONICS Configuration Tool - Connect to Viconics Wireless Gateway	
19 Address [209.89.137.183]	
User Name With Patriced	
Connect Find Wereless Gateway Close	

Gateway Settings.

The first tab on top after initial connection is for the Gateway basic configuration.

Viconics Configuration Tool	_ 8 ×
Viconics Configuration Tool - Viconics Wirless Gateway Settings	Gateway Settings
Version 3.1.30.1.7.2.1	Database Tools
	Bacnet Network
Can www node status	Station Director
Total Thermostats Detected: 28	Platform
I ocal Added I hermostasts I Ib Total Non-Added Thermostasts I 2	Disconnect
Vive Gateway Resources	
Current CPU Usage: 8%	
Total Memory Available: 65536	
Free Memory Available: 5216	
Gabway Host D: 00xx-NPR2-0000-0E8F-883F	
✓ VWG Zigbee Settings	
ZigBee PAN ID: 72 [0 - 500]	
Channel Select: [10 - 26]	
🔚 Save Zigbee Settings	
\frown	
Beyond Comfort	

VWG Node Status

- Total Thermostats Detected, represent the total number of wireless thermostats currently detected by the Gateway. This number includes all thermostats either in the database or not.
- Total Added Thermostats, represent the total number of thermostats currently in the Gateway database. I.E. these thermostats have either LON or BACnet objects associated with them.
- Total Non-Added Thermostats, represent the total number of thermostats currently NOT in the Getaway database. I.E. these thermostats DO NOT have LON or BACnet objects associated with them yet.

VWG Gateway Resource

The gateway resource count is used as a general indication of the CPU and memory usage of the gateway. It also indicates the current assigned Niagara Host of the gateway and the current Niagara software build used.

PLEASE NOTE: If the configuration tool is opened on the VWG at the same time as the VWG is in operation with a fully loaded database, expect both the tool and VWG to react with a small delay. Once all modifications, servicing or configuration to the VWG is done, the tool should be closed to allow all resources of the VWG to be used by the VWG wireless gateway application only. In all cases, Viconics recommends to <u>not</u> leave open the tool attached to the VWG permanently.

VWG Zigbee Settings

Those settings are where you set the ZigBee PAN ID. (Personal Area Network Identification) address and the channel for the VWG.

- Gateway ZigBee PAN ID. (Personal Area Network Identification). This is where the PAN ID of the gateway is set. Range is from address 1 to 500. The default of "0" is not a valid PAN ID.
- **Channel Select.** This is where the current Channel frequency used by the gateway is set. Range is from 11 to 26. (2405 MHz to 2480 MHz, 5 MHz channel spacing) Please note that channel 26 is attenuated by 4 db compared to the other channels. The default of "10" is not a valid Channel.

IMPORTANT NOTES (Please Read Carefully) :

- For every thermostat reporting to a gateway (maximum of 30 thermostats per gateway), be sure you set the **SAME** PAN ID and Channel value at both the gateway and the thermostat(s).
- When properly configured, the issue of RF interference and lost data between the gateway and the thermostats can be avoided. Without proper care or proper software configuration serious interference issues can happen.
- Viconics recommends using only the 2 last channels (25-2575MHz and 26-2580MHz) Viconics recommends this purely as a practical tip for deployment in the field based on our experience. These 2 upper channels are not affected and are out of the range of IEEE802.11x Wi-Fi Channels spectrum.

Database Tools.

This section is used to configure the wireless gateway thermostat database with its own toolset.

Update/i	Ack Duplicates	Discover The	mostats Set Ur	its Conversion System	<u> </u>				l
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	1110000000	I market and			1	former and and	rationary or any writer [peaks mean		I.
75	v17300C1000_75	oue -	Table .		1.171	(down, alarm)	Fall[01-May-08 9:59 AM ED1] Device timeout		
2	V17300C1000_74	oue	Talse		1.171	(down, alarm)	Fall[01-May-08 9:59 AM ED1] Device timeout		
73	v17300C1000_73	true .	Talse	0	1.171	(down, alarm)	Par [01-May-08 10:02 AM ED1] Device timeout		E.
72	v17300c1000_72	ove	Talse	6	1.171	çdown, alarm)	Fal [01-May-08 strict AM ED1] Device timeout		E.
71	v17300C1000_71	tive .	Talse	6	1.171	(down, alarm)	Par [01-May-08 10:02 AM ED1] Device timeout		E.
69	VT7300C1000_69	brue	false	6	1.171	(down, alarm)	Fal [01-May-09 10:02 AM ED1] Device timeout		
68	VT7300C1000_68	brue	False	6	1.171	(down, alarm)	Fal [01-May-08 10:02 AM ED1] Device timeout		
67	VT7300C1000_67	brue	false	6	1.171	(down, alarm)	Fal [01-May-09 10:02 AM ED7] Device timeout		E.
66	VT7300C1000_66	true	false	6	1.171	(down, alarm)	Fal [01-May-08 10:02 AM ED1] Device timeout		E.
65	VT7300C1000_65	brue	false	6	1.171	{ok}	Ok [01-May-08 10:02 AM EDT]		E.
64	VT7300C1000_64	true	False	6	1.171	(down, alarm)	Fal [01-May-08 10:02 AM ED1] Device timeout		
63	VT7300C1000_63	bue	false	6	1.171	(down, alarm)	Fal [01-May-08 10:02 AM ED/T] Device timeout	1	1
62	VT7300C1000_62	brue	false	6	1.171	{ok}	Ck [01-May-08 10:02 AM EDT]		1
61	VT7300C1000_61	true	false	6	1.171	(ok)	Ok.[01-May-08 10:02 AM EDT]		1
60	VT7300C1000_60	brue	false	6	1.171	{ok}	Ok [01-May-08 10:02 AM EDT]		1
73	VT7300C1000_73	False	False	6	1.171	(ok)	Ck.[01-May-08 10:01 AM EDT]		
74	VT7300C1000_74	false	false	6	1.171	{ok}	Ok.[01-May-08 10:01 AM EDT]		
71	VT7300C1000_71	faise	false	6	1.171	(ok)	Ck.[01-May-08 10:01 AM EDT]		
68	VT7300C1000_68	false	false	6	1.171	{ok}	Ck [01-May-08 10:01 AM EDT]		
75	VT7300C1000_75	faise	false	6	1.171	(ok)	Ck.[01-May-08 10:02 AM EDT]		
66	VT7300C1000_66	false	false	6	1.171	{ok}	Ck [01-May-08 10:01 AM EDT]		
72	VT7300C1000_72	False	false	6	1.171	(ok)	Ck [01-May-08 10:01 AM EDT]		
64	VT7300C1000_64	false	false	6	1.171	(ok)	Ck [01-May-08 10:02 AM EDT]		
69	VT7300C1000_69	Faise	false	6	1.171	(ck)	Ck [01-May-08 10:02 AM EDT]		
67	VT7300C1000_67	Enion	false	6	1.171	-fok3	Ok [01-May-08 10:01 AM EDT]		1
63	YT7300C1000_63	faise	false	6	1.171	(ck)	Ck [01-May-08 10:01 AM EDT]		
1 80	VT265681000 80	Exice	false	3	1.171	fok3	Ok [01-May-08 10:01 AM EDT]		- 20
amm Address	Thermostat Name	Added to Network	Duplicate Detected	Thermostat Version	Corren Madule Version	Status	Health [1]		0
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									User
	lersion 3.1.30.1.7.2.1								DA
	viconics Config	uration Tool - [atabase Tools						-

The table lists the current thermostats detected by the gateway that have the same PAN ID and Channel settings as the gateway. A Yellow highlight indicates a previously discovered thermostat that has not updated is mandatory wireless heartbeat to the VWG and is now offline to the VWG.

- **Comm Address**. The current physical MAC address set at each individual thermostat in its local configuration.
- Thermostat Name. The thermostat's given name in the database. The name is constructed of the thermostat model number and its current local MAC address. Ex. A VT7300C1000W with a local MAC address of 21 will carry a name in the database of VT7300C1000_21
- Added to Network
 - True = thermostat already added to the BACnet or LON network. When discovered on either the BACnet or LON world, the thermostat's points will be available and exposed.
 - False = thermostat **NOT** added to the BACnet or LON network. When discovered on either the BACnet or LON world, the thermostat's points will **NOT** be available and exposed.
- **Duplicate Detected**. This is used if by accident the same local MAC address was set at more than one thermostat reporting to the same gateway. Both would be reported with the same thermostat name (if the same model number are used) and both would carry the same Comm Address.
 - False = thermostat MAC address **NOT** duplicated. Indicates a normal condition.
 - True = thermostat MAC address duplicated. Indicates an *abnormal* condition. The following actions need to be taken.
 - 1. Physically re-address all of the duplicate thermostat address to new MAC addresses NOT used in the current database.
 - 2. Delete all the duplicates in the database using the Add/Remove Selected Thermostat button.
 - 3. Use the Discover Thermostat button to refresh the database with using the thermostat new MAC addresses.

- **Module Version**. The current software version of the wireless communication module installed inside the wireless thermostat.
- Status. Indicates if the current thermostat is online to the VWG or not.
 - o If online, the status will be {OK} and the thermostat line will be all white
 - o If offline, the status will be {down} and the thermostat line will be all yellow
- Health. The current status of each thermostat wireless node. "OK" is for an online thermostat and the date and time represent the last time a communication event was received by the VWG from a thermostat. A "Fail" represents a thermostat that stopped responding to its mandatory heartbeat.

Database Tools. Add / Remove Selected Thermostat

This tool will let you add any selected wireless thermostats to the LON or BACnet database and expose their objects. The status of the selected thermostats will then change from {false} to {true} under the "added to network" status tab.

This will allow you to:

- Bring any newly discovered thermostat to the BACnet or LON database
- Delete and remove any existing thermostat from the BACnet or LON database
- Bring back thermostat to the BACnet or LON database with their modified MAC addresses.

PLEASE NOTE: During the process of adding or removing many thermostats at once, the tool may not respond to new inputs. Wait until the VWG is finished processing the required modification before initiating any new commands. The addition of 30 thermostats to a database can take up to 10 minutes.

Also be sure to delete old thermostat no longer used in the database once a fresh discovery process is finished. This will also eliminate all the unwanted objects on the BACnet & LON database also.

If a particular thermostat refuses to join the network and cannot be seen by the VWG. Please move momentarily closer to the VWG until it has joined the network and it is added to the database. It can then be re-located to its original position.

Database Tools. View Selected Thermostat

This view let's you look at all the current objects of a selected thermostat. This view does not refresh automatically.

If a re-fresh is needed , please close the window and re-open it a second time to get the updated values of the objects.

The Out of Service column indicates if a point can be overridden to write to it. This only applies to points that also have a real present value at the thermostat level:

- RoomTemp
- OutdoorTemp
- RoomHumidity

If the out of service value for the above mentioned points is equal to:

- False = point is read only from the thermostat.
- True = point can be written over from the network

Database Tools. Discover Thermostat

The discovery process of wireless thermostats is automatically launched when the wireless networks is activated when values for the PAN ID & channel are saved in the configuration. Launch the

VWG discovery process will re-initiate a new discovery process if any newly installed devices are to be found.





Update/Ack Duplicates

Database Tools. Update / Ack Duplicates

Scans the database for duplicate MAC addresses in the database.

If any duplicates are found in the database, they will be highlighted in the database

Follow these steps to correct the duplicate addresses:

- 1) Physically re-address all of the duplicate thermostat address to new MAC addresses NOT used in the current database.
- 2) Delete all the duplicates in the database using the Add/Remove Selected Thermostat button.
- 3) Use the Discover Thermostat button to refresh the database with using the thermostat new MAC addresses.

Database Tools. Delete Selected Thermostats

This toll allows you to directly delete the selected thermostat(s) both from the BACnet or LON database and the list of discovered thermostats at the same time. If the thermostat needs to be re-discovered after modifications, use the "discover thermostat" button

Database Tools. Set Unit Conversion

Use this function *prior* to the addition of thermostat s to the BACnet or LON database. This allows to set the desired exposed temperature analog variables of the selected thermostats to be exposed either in degree Celsius or degree Fahrenheit scale with the proper unit attribute attached to the objects.

- English sets the units to degree Fahrenheit
- Metric sets the units to degree Celsius

User Administration.

This tab is used to set users and access rights to the VWG for commissioning and testing.

Gateway Settin
Database Too
User Administra
Bacnet Netwo
Station Direct
Platform
Disconnect.

User Administration. Add User

Add different users to the VWG and set their access rights.

- User Name: Enter desired user name for the new user
- Password: Enter desired user password for new user. Password is case sensitive
- Confirm: Confirm desired user password for new user. Password is case sensitive
- User Type:
 - o Administrator, grant's access all functions of the VWG
 - o Supervisor, grant's access to all functions required for commissioning of the VWG
 - o Operator, grant's access in view mode only without the possibility of doing any modifications

Please note:

Both the BACnet and the Admin users cannot be deleted A password can be added to the admin user if required

🎊 Set Units Conversion System	×
Units Conversion: Pnylish V	
OK Cancel	



User Administration. Delete Selected User

Delete a selected user from the current VWG user list.

User Administration. Edit Selected User

Edit the profile or password of a selected user from the current VWG user list.

- If "Enabled" is set to:
 - o True, will grant access to the user
 - False, will void access to the user. Profile is still in the user list if it needs to be re-activated at a later time.

BACnet Settings.

This tab is used to set all BACnet IP or BACnet MS-TP settings for the VWG. Only the settings related to the purchased models will be presented. I.E. an IP VWG will display IP settings only and an MS-TP VWG will present the settings for MS-TP

ACRet MS/TP Set	ttings \$						- H	100
		1					1.0	Do
work Status	sk)							- 30
ik Cause							- 11	
Cnet Object ID de	wice 1182						- 10	
work.Number	157						- UD	
TP Address	10 - 127]						- 11	
TO Read Date							- 11	
IP baub Hate 5							- 11	
OU Segment Timeout [20	00 ms [0 - max]						- 11	
OU Timeout	000 ms [0 - max]						- 11	1
TP Status Co	(al						- 111	
LT. Protector								
TP Fault Cause							- 11	
TP Fault Cause	El Faulte Disable						- 11	
IACnet Table #	Enable Disable							
IIP Fault Cause	Diject Name	Object Type	Inst Num	Value	Reliability	BACset Wetable		
IACnet Table #	Object Name VTP5561000_80_RoomTemp	Object Type analog/falue	Inst Num 1185	Volue 74.3 % (o) @ def	Reliability Ureiable Other	BACset Wetable		
ITP Fault Cause	Disable Disable	Object Type analogValue analogValue	105 1105	¥okse 74.3 ♥ (ok) ⊕ def 59.1 ♥ (ok) ⊕ 16	Reliability Urreliable Other No Fault Detected			
IACnet Table ± IACnet Table ± Souther table 5	Enable Disable Object Name V1765681000_80_floom1emp V1756881000_80_jloom2emp V1756881000_80_jkpl/mp	Object Type analogValue analogValue analogValue	Inst Num 1185 1186 1187	Value 74.3 % (o) ⊕ def 58.1 % (o) ⊕ def 72.3 % (o) ⊕ def	Reliability Unreliable Other No Pault Detected Unreliable Other	84Count Winitable [5] 10 10, 22, 24, 34, 45, 56, 67, 26, 26, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21		
INT Fault Cause Save Save Save Save Save Save Save Sav	Enable Disable Object Name V170561000_80_80_Month V170561000_80_0_0.04door1emp V170561000_80_0.04door1emp V170561000_80_0.04door1emp V170561000_80_0.04door1emp V170561000_80_0.04door1emp V170561000_80_0.04door1emp V170561000_80_0.04door1emp V170561000_80_0.04door1emp V170561000_80_0.04door1emp V170561000_80_0.04door1emp	Object Type analogValue analogValue analogValue analogValue	Inst Num 1185 1186 1187 1189	¥olue 74.3 ↔ (ol.) ⊕ def 58.1 ↔ (ol.) ⊕ def 72.3 ↔ (ol.) ⊕ def 0.5 ‰ (ol.) ⊕ def	Reliability Unrelable Other No Pault Detected Unrelable Other Unrelable Other			
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P Fauk Couse Acreet Table # Acreet Tab	Baseline Cinculate Object Name 775041000 JB, ShowTemp 1775041000 JB, ShowTemp 177504100 JB, ShowTemp 1	Object Type analogYalue analogYalue analogYalue analogYalue analogYalue analogYalue analogYalue analogYalue analogYalue analogYalue	2nst Num 1185 1186 1187 1189 1199 1190 1191 1192 1193 1194	¥aðse: 74.3 °F (ak) @ def 73.4 °F (ak) @ def 72.3 °F (ak) @ def 75.9 °F (ak) @ def 75.9 °F (ak) @ def 73.5 °F (ak) @ def 75.5 °F (ak) @ def 75.6 °F (ak) @ def 75.6 °F (ak) @ def	Reliability Urreliabile Other Inreliabile Other Urreliabile Other Urreliabile Other Urreliabile Other Urreliabile Other Urreliabile Other Urreliabile Other Urreliabile Other	BACardt Ward Adv B 00. 200.		
ACreet Table * wet Name 3 Save	Condit Condit Condit Con	Object Type analogYalue analogYalue analogYalue analogYalue analogYalue analogYalue analogYalue analogYalue analogYalue analogYalue analogYalue	Inst Num 1185 1186 1187 1189 1199 1190 1191 1192 1193 1194 1194	Value $74.3 \neq (a) \oplus def$ $31.4 \neq (a) \oplus def$ $72.3 \neq (a) \oplus def$ $72.3 \neq (a) \oplus def$ $72.5 \neq (a) \oplus def$ $73.5 \neq (a) \oplus def$ $73.5 \neq (a) \oplus def$ $73.5 \neq (a) \oplus def$	Rehability Urrelable Other No Fault Detected Urrelable Other Urrelable Other Urrelable Other Urrelable Other Urrelable Other Urrelable Other Urrelable Other Urrelable Other	Balance two adds B No Reg. 2014;9:45;9:46;97;96;97;96;91;01;1;012;91;1;91;94;96;15;01; No Reg. 2014;9:45;9;9;9;9;9;9;9;9;9;9;9;9;9;9;9;9;9;9;9		
TP Fauk Cause ACreet Table 1 ACreet Table 1 ACreet Table 2 appendix table 2 app	Coude C	Object Type analogitalue analogitalue analogitalue analogitalue analogitalue analogitalue analogitalue analogitalue analogitalue analogitalue analogitalue analogitalue analogitalue analogitalue analogitalue analogitalue analogitalue	Inst Num 1185 1185 1185 1189 1199 1199 1191 1192 1193 1194 1195 1185	Value 74.3 ** (ob) @ def 73.3 ** (ob) @ def 72.3 ** (ob) @ def 0.0 ** (ob) @ def 73.5 ** (ob) @ def 73.6 ** (ob) @ def 7	Reliability Urreliable Other Urreliable Other	BACuret Warable D 00 mail children für Heit Preichen Heit Leit Leit Leit Leit Leit Leit Leit L		

BACnet Settings. BACnet IP Settings

 BACnet Object ID. Is the current assigned BACnet ID (Object Identifier). It is a unique identification number of a device on a BACnet network. Object assigned to the VWG is always a "device" type. Usable ID range is from 0 to 4194302. Default is value is -1, which disables BACnet IP communication.

📑 BACnet IP Sett	ings ±
BACnet Object ID	device V 500
Network Number	-1
BACnet Adapter	Ethernet Adapter NET1 💌
UDP Port	0xBAC0
BACnet IP Device Type	Standard 💌
BACnet BBMD Address	null
Save	Enable Disable

- Network Number. Is the current assigned network number for the VWG. Usable range is from 1 to 65534 Default is value is -1 which disables BACnet IP communication.
- BACnet Adapter. This selects which of the 2 IP network connection is to be used for BACnet IP communication. Net1 or Net2. The default is set to Net1
- **UDP Port**. Is the UDP port number assigned to the device if the VWG for BACnet IP communication.
- The default port for BACnet communication is: 47808 (0xBAC0)
- The default port for the Station connection is: 1911
- The default port for the Platform connection is: 3011
- **BACnet IP Device Type**. Defines the type of IP connectivity required.
 - **Standard**. Used when the VWG is connected to a LAN and is *not* required to be accessed or have connectivity through an Internet WAN connection.
 - o Foreign Device. Not used
 - Ddmd. BACnet/IP Broadcast Management Device. Used when the VWG is connected to a LAN and is required to be accessed or have connectivity through an internet WAN connection
- **BACnet BBMD Address.** Defines the Internet network address of the VWG when **Ddmd** is enabled and remote Internet connectivity is required. Usable range is from 1 to 65534

🚖 Edit User	×
UserName BACnet	
Password	
Confirm •••••••	
Enabled 🔘 true 🔻	
UserType Administrator	-
OK Cance	el

BACnet Settings. BACnet MS-TP Settings

 BACnet Object ID. Is the current assigned BACnet ID (Object Identifier). It is a unique identification number of a device on a BACnet network. Object assigned to the VWG is always a "device" type. Usable ID range is from 0 to 4194302. Default is value is -1, which disables BACnet MS-TP communication.

🛿 BACnet MSTP S	ettings ±		
BACnet Object ID	device	▼ 500	
Network Number	1		
MSTP Address	100	[0 - 127]	
MSTP Baud Rate	Baud _38400 💌		
APDU Segment Timeout	2000	ms [0 - max]	
APDU Timeout	3000	[ms [0 - max]	
📙 Save	🖳 Enable	📃 Disable	

- Network Number. Is the current assigned network number for the VWG. Usable range is from 1 to 65534 Default is value is –1 which disables BACnet IP communication.
- MS-TP Address. Is the BACnet MAC address assigned to the VWG. It is a unique identification number of a device on a BACnet MS-TP network and needs to be unique on that RS-485 trunk. Usable MS-TP MAC range is from 0 to 127. Default is value is –1, which disables BACnet MS-TP communication.
- **MS-TP Baud Rate**. Is the assigned Baud rate of the VWG on the BACnet MS-TP networks. All node on the trunk need to be set to the same speed for proper operation

Valid and usable ranges are:

- o 9600 Kbps
- o 19200 Kbps
- o 38400 Kbps
- o 76800 Kbps
- ADPU Segment Timeout and ADPU Timeout. These are important MS-TP settings and should be modified only if you master and fully understand the functions these parameter hold in BACnet MS-TP communication. These can / could be changed only if certain problematic behaviors are encountered in MS-TP communication. For more information, please contract your Viconics representative.
 - ADPU Segment Timeout default is: 2000 ms
 - ADPU Timeout default is: 3000 ms.

BACnet Settings. BACnet Table

The current table view represents the actual current BACnet value inside the VWG.

BACnet MS/TP Set	tines I						- HT	Rector I
								Rein
BACnet Table #	lation to the second	later to the second	In an a	lu.t	In a star	Inc. Int.	H	Plat
arget Name	Object Name -	Colect type	Inst rain	Value:	Residenty	Index writeacoe	110	Desc
A STRACT	VT7300C1000_60_MURCAPA	bear Value	1007	CHE (via) do del	No Fault Detected	76	110	_
Alama	VT1000C1000_60_MUN08848	on any rout	007	the floor feit of def	No Falk Detected	10		
SIL Date	VTTDOCIDO 60 BUDder	historiale	-	Activated (ch) in def	No Fact Detected	10		
ALCONOMIC STREET	VT100001000_00_01100000	beautitie	-	Addressed (ob) an def	No Fact Detected	10 III III III III III III III III III I		
Condition	VTT00C1000 60 Cookid-sDatus	and the statistics	-	Second Johl & del	Rin Earth Datacted			
The of Value Party is a function	VTT2001000 60 Mediated ator	out the statistics		Strength (sk) (b dal	No Fact Detected			
Ternatorint	vitropcing of received	m PT2 stalling at	1004	Level Licklin B	No Fast Detected	ni n		
Conformation	vT700C100 60 OrcCodelnert	analystick of	1000	77 (1 19 (n)) (0 def	to Fait Detected	nt of int of int of int of all all off off off off off off off		
Occhieved Setpoint	vT7300C1000 60 Occhieve/Setport	analogitalue	891	75.0 1 (xi) @ def	No Fault Detected	ni n2 n3 n4 n5 n6 n7 n8 n8 n10 n11 n12 n13 n14 n15 n16		
Occupancy	VT7300C1000 60 Occupancy	mattratevalue	805	Occupied (sk) @ 16	No Fault Detected	n1 m2 m3 m4 m5 m4 m7 m8 m8 m10 m11 m12 m13 m14 m15 m16		
Cut/ourTent	vT2300C1000_60_0x6/porTemp	analoctialus	856	57.5 1 (14) @ 16	No Fault Ceterted	ni n2 m3 m4 m5 m4 m7 m8 m9 m10 m11 m12 m13 m14 m15 m14		
PICoolingDemand	vT7300C1000 60 PICoolingDemand	analogialue	899	0.0 % (ok) @ def	No Fault Detected	00		
PrinatingDemand	vT7300C1000 60 FDisativeDenand	analocitatur	895	75.0 % (rk) @ def	No Fault Detected	70		
RoomTemp	vT2300C1000 60 RoomTemp	analocitatus	845	75.0 4 (a) @ def	No Fault Detected	70		
SequenceOfOperation	VT7300C1000 60 SequenceOfOperation	mak/Rate/ska	890	Cooling & Reheat (ck) @ 16	No Fault Detected	n1 n2 n3 n4 n6 n6 n7 n8 n9 n10 n11 n12 n13 n14 n15 n16		
RandlyCoolSetport	v17300C1000 60 StandbyCoolSetpoint	analogijakas	894	75.0 4F (ok) @ def	No Fault Detected	n1.n2.n3.n4.n5.n6.n2.n8.n9.n10.n11.n12.n13.n14.n15.n16		
Randburleat Setpoint	v17300C1000 60 StandbyHeatSetpoint	analogialue	895	0.0 * (ok) @ def	No Fault Detected	n1.n2.n3.n4.n5.n6.n7.n8.m8.n10.n11.n12.n13.n14.n15.n16		
A Skeph/Temp	v17300C1000 60 SupplyTemp	analogValue	887	-40.0 1 (ok) @ def	No Fault Detected	70		
SystenMode	vT7300C1000 60 SvstenMode	multificate/value	891	Auto (uk) @ def	No Fault Detected	n1.n2.n0.e4.e5.e6.e7.n8.e5.n10.h11.n12.h13.h14.h15.n16		
Q UE	VT7300C1000 60 UE3	analogValue	896	-40.0 (ok) @ def	No Fault Detected	10		
UnOccCoolSetpoint	VT7300C1000_60_UnOccCoolSetpont	analogValue	892	90.0 1F (46) @ def	No Fault Detected	n1.n2.n3.n4.n5.n6.n7.n8.m9.n10.n11.n12.n13.n14.n15.n16		
ChrocheatSetpont	v17300C1000_60_UnOccHeatSetpoint	analogitalue	893	62.0 1 (ui) @ def	No Fault Detected	n1,n2,n3,n4,n5,n6,n7,n8,n9,n10,n11,n12,n13,n14,n15,n16		
AUTIOURDUR	VT7300C1000_61_ALIIOutput	binaryValue	903	Off (ok) @ def	No Fault Detected	10		
AUTStatus	VT7300C1000_61_ALRStatus	binaryValue .	902	CIT (ok) @ def	No Fault Detected	70		
Alams	v17300C1000_61_Alams	miltiRateValue	902	No Alam (ok) @ def	No Fault Detected	710		
C St2Status	VT7300C1000_61_811Status	binaryValue	900	Activated (ok) @ def	No Fault Detected	no		
EL25Ratus	VT7300C1000_61_8125Rahus	binaryValue .	901	Activated (ok) @ def	No Fault Detected	no	18	
CoolValveStatus	VT7300C1000_61_CoolValveStatus	mitOtateValue	904	Stopped (sk) @ def	No Fault Detected	ne	121	

Internally, the VWG uses 2 databases. There is one that is for all the thermostat objects used on the wireless trunk portion (from the gateway to all the thermostats). These objects in the wireless trunk can only be seen in "**Database Tools. View Selected Thermostat**" using the configuration tool.

The other database is the one used by a 3rd party BACnet integration system. This database by-directionally exchanges information with the wireless object database.

Please note that the wireless object database works on a fixed COV subscription base. The BACnet and LON database of the VWG operate on separate set of rules as defined by the Niagara AX TM frameworks. What this means is that there will be difference in which the local VWG BACnet objects and the wireless objects are handled.

Back and forth from the VWG to the wireless thermostats, the COV values are fixed to:

- 2.5% for PI demand objects
- 0.5 for all temperature (C & F) and humidity AV objects
- On change for all MV's & BV's

- Target Name. Assigned wireless object name from the wireless database.
- **Object Name**. Default assigned BACnet object name. The current assigned BACnet object name is automatically derived from the following structure.

Current model number_Current local thermostat MAC address_Object assigned

Ex. A VT7300C1000W with a local MAC address of 21 for the room temperature object will carry a BACnet object name of: VT7300C1000_21_RoomTemp.

Please note:

Some 3rd party integration tolls will let you edit and change the default assigned BACnet object name to a new value as required in your application.

If your BACnet tool set does not give you access and view the default BACnet object name assigned to each object, you will need to refer to this table to cross-refer the assigned object instance ID to each thermostat objects

- **Object Type.** Defines the type of object BACnet associated with the wireless device.
- Instance Number. Defines each BACnet instance ID assigned to each object
- Value. Shows the current value of the objects in the BACnet database
- Reliability. Displays the BACnet reliability attribute of each object in the database
 - No Fault Detected. Point is properly refreshed over the wireless network
 - Unreliable Other. Point is down either due to heartbeat failure or object did not respond to a wireless write command after the mandatory 3 write retries

More information on this subject is available in the BACnet integration guide of the VWG

• **BACnet Writable.** Indicates if the objects will accept a Priority Array write command or if they are read only

Station Director.

This tab displays the Niagara AX[™] standard Station Director output window. It is used for diagnostic purposes only and displays current information on the internal operation of the VWG.

Vicenics Configuration Teol	_ @ X
	Gateway Settings
VIE Vieworks Computation 1 doi - Station Director	Database Tools
	User Administration
Connected to 209.89.137.182	Bacnet Network
Name Status Fox Port HTTP Port Auto-Start Restart on Failure 8	Station Director
WW08ACHe0151P (Running 1911 80 Isue Inue	Platform
at com.tridium.sys.schems.ComponentSlotHap.invake(Unknown Source)	Disconnect
at con.tilaius.yrs.engint.ingineWicijac.thekAtynak(Unknown Source)	
at com.tridium.sys.engine.EngineHanager.execute(Unknown Source)	
at con.tridium.sys.engine.EngineManager4EngineThread.run(Unknown Source)	
at cost investing singless cost Eliconicalization under Eliconical elicitation (Eliconical elicitation elicitatication elicitaticaticaticaticaticaticaticaticatic	
at cost a prospering. Virtues, point, Briconic@BarrieTuterenal, changed (Dahown Source)	
at con, tridium, www.mchemas.ComponentSlotHap.fireComponentEvent(Unknown Source)	
at com.tridium.sys.schema.ComponentSlotMap.modified(Unknown Source)	
at com.tridium.sys.schema.ComplexSlotMap.modified(Unknown Source)	
at con.tridium.sys.schema.ComplexSlotHap.setDouble(Unknown Source)	
at javar. Jaja. pys. Incomplex. Intercomplex (unknown Source)	
ar tany bala are floand ar or the first floand starter balance	
at jawas, baja, control. 8Control. Point, doffecute (Introduce)	
at auto.com lynxspring_wireless_point_BViconicSMmericExternal.invoke(Unknown_Source)	
at con.tridium.sys.schema.ComponentSlotHap.invoke(Unknown Source)	
at con.tridium.sys.engine.EngineUtil.doInvoke(Unknown Source)	
at cos.tridius.sys.engine.EngineManaper.checkAsymcActions(Unknown Source)	
at cost tridius.rys.engine.triginetanaget.execute(untrown Source) Stream Ta file	
toos, bitos, bitos erector	
at con impuring, wireless, com, Wiconic@heolicite@eceive, undate@mericExternals(Unknown Source)	
at com. lynospring.wireless.point.BViconicsWumericExternal.changed(Whknown Source)	
at com.tridium.sys.schema.ComponentSlotHap.fireComponentEvent(Unknown Source)	
at com.tridium.sys.schems.ComponentSlotMap.modified(Unknown Source)	
at com.tridium.sys.schemms.complexSlotHap.modffled(Unknown Source)	
at tone triatmery at the section of	
at cost stridue sys.schaptes.cantes/infances.cantes/	
at jawax, baja, sys.BComplex, copyFrom(Unknown Source)	
at javas.baja.control.BControl.Point.doExecute(Unknown Source)	
at suto.com_lynxspring_wireless_point_BViconicsNumericExternal.invoke(Unknown_Source)	
at com tridium sys.schema.ComponentSiotHap.invoke(Unknown Source)	
at cos trialus sys engine inpinetil.com/newse (unknown louice)	
at cost tridum restanting at the triduction (outro) source)	
ar one rotation and sentra Protecterteretteretteretteretteretterette	
	-

The VWG is based on a Niagara AX [™] platform and the configuration utility tool is based on Niagara AX [™] Workbench.

The two start settings for the station are as follows:

Auto-start (Leave box checked)

Specifies whether the AX station starts following a platform startup. This means following a host reboot. perhaps as a result of a power cycle, but possibly from a platform reboot command.

Restart on Failure (Leave box checked)

Specifies whether the platform restarts the station if the station's process exits with a nonzero return code (e.g., engine watchdog had killed the station because of a "deadlock" condition).

Note: Be careful about using station controls, and understand the difference between them before using them.

• Start

Enabled only if the station has an "Idle" or "Failed" status in the installed stations area. When pressed, that host's platform daemon immediately starts that station. Text in the station output is cleared, and output messages begin with the new startup of that station.

Stop

Enabled only if the station has a "Running" status in the installed stations area. When pressed, a popup confirmation appears. If you confirm, the host's platform daemon shuts the station down gracefully (saving its configuration to its config.bog file, and potentially saving history data).

Restart, Not available or used •

Reboot

Always enabled. When pressed, a popup confirmation dialog appears. If you confirm, the selected host is rebooted. This is considered a drastic action.

Kill

Enabled only if the station has a status of "Starting", "Stopping", or "Running" in the installed stations area. When pressed, a popup confirmation dialog appears. If you confirm, the host's platform daemon terminates the station process immediately. Note: Always use Stop instead of Kill, unless unavailable (stuck for a long time as either "Starting" or "Stopping"). Unlike a station stop, a station kill does not cause the station to save its config.bog, nor does it update the station output area.

Dump Threads

Enabled only if the station has a "Running" status in the installed stations area. When pressed, the host's platform daemon has the station send a VM thread dump to its station output.

Save Bog

Enabled only if the station has a "Running" status in the installed stations area. When pressed, the host's platform daemon has the station locally save its configuration to config.bog.

Verify Software

Enabled regardless of station status. When pressed, Workbench parses the station's config. bog file and the host's platform.bog file, looking for module references. Workbench then checks to see if those modules are installed. Any missing modules are listed in a popup dialog and if available in your Workbench installation, the dialog offers to install the missing modules in the remote host.

Clear Output

Enabled regardless of station status. When pressed, all text in the station output area is cleared. Note: Data in the station output area is fetched from a memory buffer in the platform daemon. Clearing the output does not actually clear the daemon's buffer. Therefore, if you change the selection away from, and then back to the station, it re-fetches all buffered data.

Pause Output

Enabled only if the station has a "Running" status in the installed stations area. When pressed, the button toggles to "Load Output", and the next press back to "Pause Output" (and so on). During a paused output, text remains frozen in the station output area. This is useful when the station is rapidly writing output. When you press Load Output, text in the station output area is reloaded with the station's buffered output, and

output remains updating in real time.

Output Dialog

Enabled regardless of station status. When pressed, this produces a separate "non-modal" output window displaying the same output text as in the Station Director's station output area. Included are buttons to **Dump Threads**, **Pause Output**, **Clear Output**, and **Close** the window.

• Output settings

For the currently selected station in the Station Director, the **Output Settings** button produces a dialog in which you specify how the platform daemon buffers the output from that station.

Output Settings dialog

The two available settings are in bytes, and are:

Memory Buffer Size

Size of the memory buffer for the station output. If the station creates more output that the size of the memory buffer, the oldest output is lost.

Maximum File Size

When the station stops, its output buffer is written to a console.txt file. This setting defines the maximum size of that file.

Platform.

This tab sets up different function of the VWG

- Station Copier
- System Date and Time
- TCP/IP Configuration
- File Transfer Client
- Software Manager

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• Station Copier

The Station Copier is only used to install a new version of the VWG station when released by Viconics. The important functions are:

🚫 Station Copier 🛨		
Stations on this computer /C:/Lynxspring/Viconics Configu		Stations on "209.89.137.184"
	Сору	VWGBACnetIP
	Rename X Delete	

- Copy from left to right to install a new VWG station from a local drive to the gateway.
- Copy from right to left save the current VWG station in the gateway to backup to a local drive.
- Use the Rename button to rename the VWG station name
- Use the delete button to delete a station that is no longer in use (older version on the gateway)

IMPORTANT NOTES:

Unless updated (Jar files), the tool used to service or commission the VWG should always be the one originally supplier with the VWG.

When you database is fully up and all your devices have been added, it is recommended to do a backup of your station for references and safety.

🗟 Output Settings 🛛 🔀						
Memory Buffer Size (bytes)						
Maximum File Size (bytes) 32768						
	OK	Cancel				

• Station Date and Time

This is used to set the local time at the VWG. This information practical in the Database Tool view when viewing the health status and last time a thermostat was online and communicating to the VWG

Use local will set the VWG time to the local time currently in the computer where the toll resides. Press the "Save" button to confirm the changes.

• TCP/IP Configuration

Hostname. Is the local hostname exposed on the network. Please do not change and leave to "Localhost"

DNS Domain. The TCP/IP Domain Name System (DNS) domain this host belongs to. Only if DNS is used.

Gateway. The IP address for the device that forwards packets to other networks or subnets.

DNS Servers. The IP address for one or more DNS servers, each of which can automate associations between hostnames and IP addresses. Included are iconbuttons to Add (to enter IP address of server), delete and move Up/Down (to set the DNS search order).

- Interface 1. Set's the local device IP settings for NET1
- Interface 2, Set's the local device IP settings for NET2

The interface selected for BACnet IP communication is made at the "BACnet Network" tab under BACnet IP Settings. The default connection used is NET1

Selectable fields are as follows:

ID. A read-only OS identifier for the hardware interface).

Description. A read-only text string such as "Ethernet Adapter".

Adapter Enabled. Read-only checkbox that indicates whether the Ethernet port is usable.

DHCP. A checkbox to specify DHCP (Dynamic Host Configuration Protocol) instead of static IP addressing. Successful use requires a DHCP server installed on your network. If enabled, other interface fields such as IP Address and Subnet Mask become read-only, as the DHCP server assigns these after the platform reboots.

Note: In general (for stability), static IP addressing is recommended over DHCP. Caution: Do not enable DHCP unless sure that your network has one or more DHCP servers! Otherwise, the VWG may become unreachable over the network.

IP Address. The "static" IP address for this host, unique on your network. When changed and saved, this will be the new IP address under which you will connect to the VWG.

Subnet Mask. The "static" IP subnet mask used by this host.

DHCP Server. Applies only if DCHP is enabled. Shows read-only address of the DHCP server from which this host last obtained its IP address settings.

DHCP Lease Granted. Applies only if DCHP is enabled. Shows a read-only timestamp of when the DHCP lease started.

DHCP Lease Expires. Applies only if DCHP is enabled. Shows a read-only timestamp of when the DHCP lease will expire, and will need renewal.

③ Sytem Time and Date ★				
Date	18-Apr-2008 🛨 🛅			
Time 19:23 *				
Time Zone UTC (+0)				
Use Local Save				

Hostname	localhost				
Hosts File	Ŧ				
DNS Domain					
Gateway	209.89.137.2				
DNS Servers	209.89.137.90 66.163.0.161 ◆×介集				
Interfaces	Interface 1 2 ID Description Adapter Enabled DHCP IP Address Subnet Mask DHCP Server DHCP Lease Granted DHCP Lease Expires DHCP Lease Expires	en0 Ethernet Adapter NET1 @ Enabled 209.89.137.184 255.255.255.0			
Save TOPIP	1				

• File Transfer Client

The File Transfer Client is used to copy files and licenses to and from your local computer to the VWG.

The licenses and certificates used at the moment in the VWG license never expire. The File Transfer Client can be used for advanced servicing if required.

🖧 File Transfer Client 🛎					
4 公 毘					
Licenses on this computer		Licenses on "209.8"	9.137.185"		
Name Size CRC	=	Name	Size	CRC	1
		Lyrocspring.license	352 byte:	8	c5adc4b8
		Viconics.license	950 byte	5	15671F2e
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Notes about Beta Released Versions —

Please be aware of the following potential issues regarding the Beta versions of the products during installation and commissioning.

Installing VT7000 Series Wireless Zigbee Thermostats

Description / Symptom	Problem	Possible Cause	Work Around
Receiving same	Duplicated wireless	Duplicated Zigbee	1) Assure that PAN ID and
refreshed messages at 2 separate devices	Zigbee addresses	addresses created during commissioning.	 Channel settings are secured prior to network discovery. 2) Change PAN ID of all thermostat and associated gateway 3) Redo a wireless network discovery
Station Crash during group Edit/Delete	Corrupted file tables	Group edit / deletion attempted.	 Reboot wireless gateway Assure nodes are edited uniquely and not as part of a group.
VWG will not reboot and is rendered un recoverable.	Serial traffic disrupting station boot sequence.	Network traffic present during VWG boot/discovery sequence.	 Shut down gateway power Remove RF antenna during initial boot up to allow option card and station sufficient time to stabilize. Re-connect antenna
VWG will not reboot and is rendered un recoverable.	SPI corrupted.	Option card (V-RFC) replaced while power remained on or battery back up installed.	 Assure power is battery pack- up is completely disconnected and that there is no power to gateway prior to servicing VWG or making internal adjustments.
VWG not discoverable by configuration tool.	Network cable not properly connected or shorted between VWG and Computer	Cross over cable not used. Ethernet switch not used.	 Assure cross over cable is used when connecting from VWG to PC.
Unable to logon to VWG configuration tool.	Logon unsuccessful	Incorrect user name and password.	User name: admin Password: <blank></blank>

Gateway Wireless Adapter LED Status Indicators	
1 x 200ms short blink	Power on
2 x 200ms short blinks	Power on and card memory initialized properly
3 x 200ms short blinks	Power on, card memory initialized properly and serial communication with VWG main board active
4 x 200ms short blinks	Power on, card memory initialized properly, serial communication with VWG main board active and wireless networks started successfully
4 x 200ms short blinks and 1 x 1500ms long blink	Power on, card memory initialized properly, serial communication with VWG main board active, wireless networks started successfully and wireless communication with thermostats active
Thermostat Wireless Adapter LED Status Indicate	Drs
1 x 200ms short blink	Power on
2 x 200ms short blinks	Power on and communicating with thermostat
3 x 200ms short blinks	Power on, communicating with thermostat and there is connectivity to wireless network
4 x 200ms short blinks	Power on, communicating with thermostat, connectivity to wireless network and VWG is communicating with Wireless thermostat
4 x 200ms short blinks and 1 x 1500ms long blink	Power on, communicating with thermostat, connectivity to wireless network and VWG is communicating with Wireless thermostat. Thermostat is also added to the exposed BACnet database
System Troubleshooting Recommendations	

- 1. If a thermostat is not detected by the VWG, verify that the LED is blinking at least 4 times. If it is only blinking twice, ensure that the PAN and Channel of the thermostat is the same as the VWG it must communicate with.
- 2. If there are no points associated to a specific thermostat, verify the LED pattern. If the LED is blinking 4 times then the thermostat is communicating with the gateway, but its points have not been added to the LON or BACnet database. Launch the Configuration utility tool and add that thermostat to the network / database using the Add/Remove thermostat button.
- 3. When commissioning a network, it is recommended to use channels 25 and 26. Alternate these channels between floors.
- 4. If a particular thermostat refuses to join the network and cannot be seen by the VWG. Please move momentarily closer to the VWG until it has joined the network and it is added to the database. It can then be re-located to its original position.