

VX4 Energy Management Thermostats with BACnet Integration

Combining Verdant's award-winning energy management system with a BMS can further optimize the performance of the whole building via BACnet Integration

Key features



Seamlessly Integrates with BACnet

Verdant's energy management system seamlessly connects a network of thermostats using our proprietary 900MHz communication protocol and one networking device – our Online Connection Kit.



No Need for WiFi

Our proprietary mesh network makes Verdant Thermostats the preferred player in commercial properties.



Cost Effective BACnet Solution

Verdant's proven control strategies balance energy savings with superior occupant comfort while sharing vital room info via BACnet integration (i.e., occupancy, temperature, and humidity), allowing the implementation of advanced and more efficient sequences for other mechanical systems.



Seamlessly Integrate with a Property's:

- Heating, Ventilation and Air Conditioning
- Lighting Control
- Elevator Monitoring
- Access Control
- Security and Fire Alarm Systems
- Energy Management and Energy Devices
- Operations Data



Data Point	Read/Write
Battery Percentage	R
Last Updated Timestamp	R
System Mode	R/W
Fan Speed	R/W
Min Setpoint Limit	R/W
Max Setpoint Limit	R/W
Gateway Online Status	R
Heat EQP Lockout	R/W

BACnet Data Points

Object	Type	Instance number	R/W	Unit	Range	Description
Cool setpoint	AV	100000 + hex2dec(room number)	R	°F	N/A	Cool setpoint of room#
Heat setpoint	AV	200000 + hex2dec(room number)	R	°F	N/A	Heat setpoint of room#
Guest setpoint	AV	300000 + hex2dec(room number)	RW	°F	60 - 90	Guest setpoint of room#
On/Off state	AV	500000 + hex2dec(room number)	RW	N/A	For Reading: 0 – Regular Off 1 – Regular On 2 – In setback & System On 3 – In setback & System Off 4 – Dehumidification On 5 – Door Open 6 – Peak Shaving On 7 – Scheduler On 8 – Scheduler On-hold 9 – Freeze Protection On For writing: 0 – Turn Off 1 – Turn On	Thermostat on/off state of room# There are more detailed values for reading. For writing, there are only turning on/off thermostats options (setback is managed by the thermostat itself).
Room temperature	AV	400000 + hex2dec(room number)	R	°F	N/A	Room temperature of room#
Room humidity	AV	600000 + hex2dec(room number)	R	rH%	N/A	Room humidity of room#
System mode state	AV	700000 + hex2dec(room number)	R	N/A	0 – Auto 1 – Heat 2 – Cool	System mode of room#
Battery percentage	AV	800000 + hex2dec(room number)	R	N/A	0-100	Battery percentage of thermostat in room#
Minimum setpoint limit	AV	900000 + hex2dec(room number)	RW	°F		Minimum setpoint limit of a room#
Occupancy state	BV	1000000 + hex2dec(room number)	R	N/A	N/A	Occupancy state of room#
Fan speed	AV	1100000 + hex2dec(room number)	RW	N/A	For Reading: 0 – Fan Off 1 – Fan Low 2 – Fan Medium 3 – Fan High For Writing: 0 – Fan Auto 1 – Fan Off 85 – Fan Low 170 – Fan Medium 254 – Fan High 255 – Fan Invalid	Fan mode and speed of room#
Last updated timestamp	AV	1200000 + hex2dec(room number)	R	N/A	N/A	Last packet received timestamp of room#
Maximum setpoint limit	AV	1300000 + hex2dec(room number)	RW	°F		Maximum setpoint limit of a room#
Gateway Online Status	BV	1400000 + hex2dec(room number)	R	N/A	0 – Offline 1 – Online	Gateway online status
Heat EQP Lockout	AV	1500000 + hex2dec(room number)	RW	N/A	1 = electric lockout 2 = compressor lockout 0 = no lockout	Heat equipment profile lockout for rooms

Integrations and interoperability

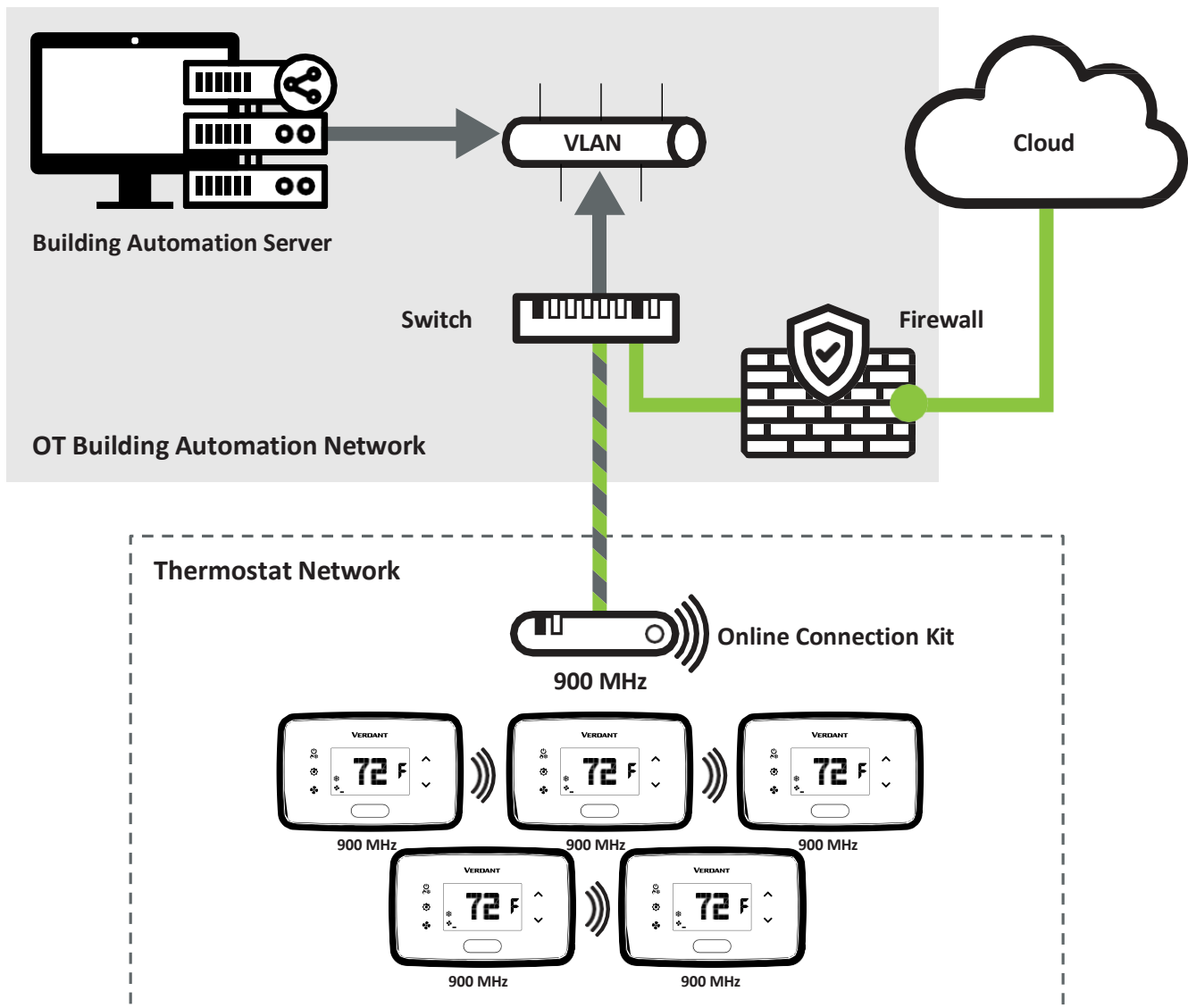
The VX4 platform integrates with lighting circuits to allow lighting based on occupancy. A RIB relay is needed to handle circuit based on the occupancy signal.

The VX4 platform integrates with property management systems (PMS) for interoperability between existing property platforms and the Verdant energy management platform.

The VX4 platform integrates with BACnet systems via IP protocol.

The VX4 platform integrates with smart locks and door lock management systems (DLMS)

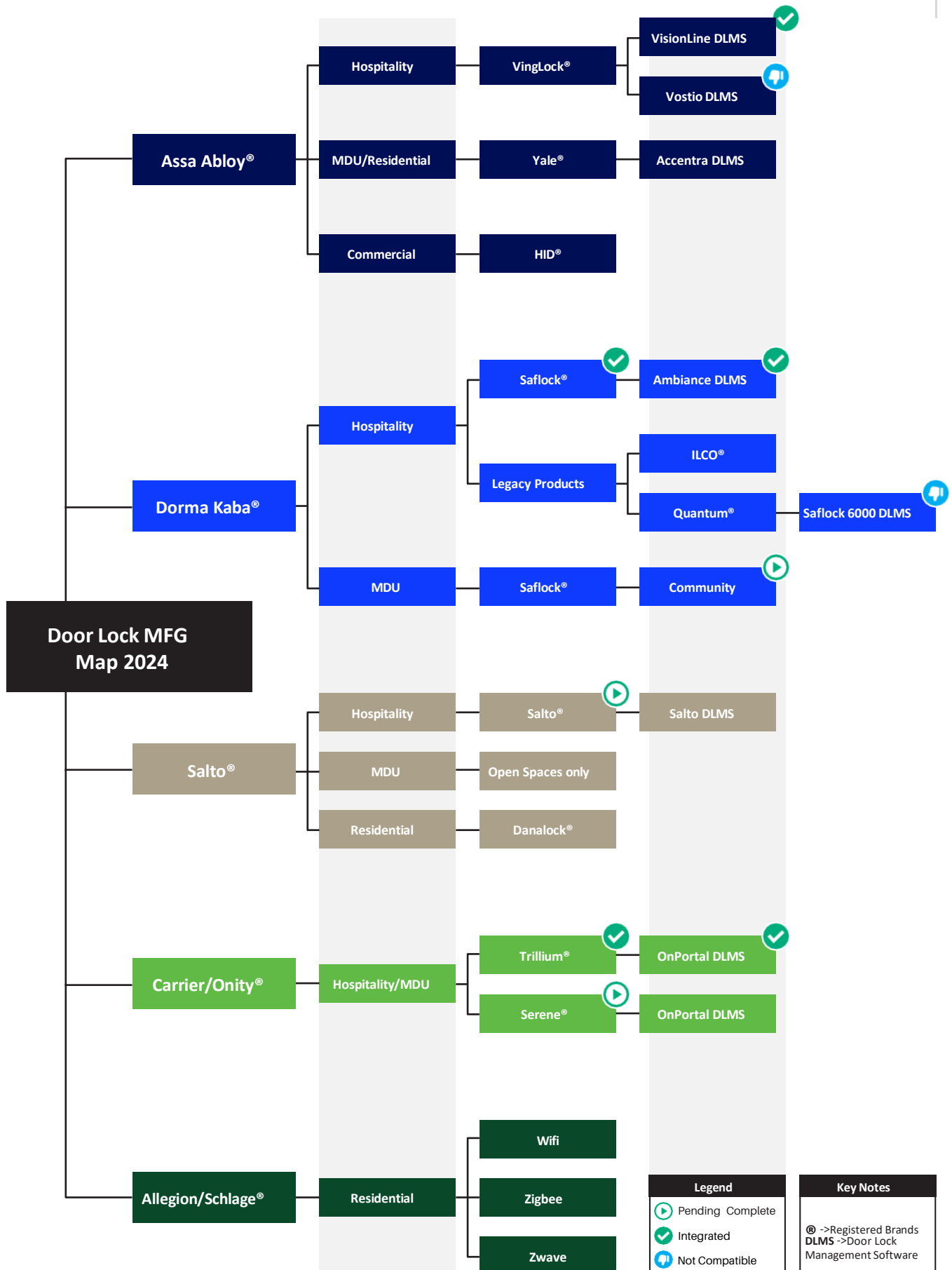
1. Onity: utilizes in-room BLE technology for “1-way” communication.
2. Dormakaba: can utilize “1-way” communication via server to server protocols or “2-way” communication with server to server and in-room Zigbee tandem protocols.
3. Assa Abloy: utilizes “1-way” communication via server to server protocols.



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