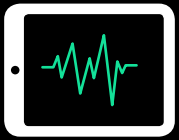




VenergyUI



VISUALIZE



ANALYZE



MOBILIZE



CLOUD



VenergyUI is a customizable yet cost effective wireless building automation solution that provides enhanced visibility and increased functionality for building owners, facilities managers as well as occupants. The VenergyUI platform utilizes leading edge wireless, self powered technology and includes HVAC, lighting controls, plug load and more. The PC based interface is easy to use and enables room based, floor based, building based or multiple building based monitoring and control capabilities.

USE CASES

VenergyUI is utilized by 20 percent of current Magnum customers. While VenergyUI isn't required to operate a wireless system from Magnum, it does provide additional capabilities that a traditional standalone system isn't able to accomplish. VenergyUI is ideal for customers looking to:

- Remotely monitor lighting or HVAC
- Remotely control lighting or HVAC
- Perform scheduling
- Provide energy reporting
- Visualize building analytics
- Compare performance across multiple buildings
- Utilize mobile devices for building control

Customers that actively engage with VenergyUI include colleges, government facilities, warehouses, multi-family residential complexes, gymnasiums and more.

WIRELESS SENSOR DATA

VenergyUI is a unique software platform that is driven by innovative wireless devices that drive big data from various parts and equipment locating inside, as well as outside, of a building. The data is communicated wirelessly to access points connected to the building's network. Data communicated can include occupancy, light levels, light status, energy consumption, temperature, set point, humidity, CO2 and more. Because Magnum's wireless devices leverage energy harvesting, our sensors cut down on the number of batteries required for a job, which saves labor time and costs.

SECURITY & HOSTING

VenergyUI is client, server based and is not browser based, making it exceptionally secure. VenergyUI is also strategically hosted on an Amazon EC2 instance, which provides Magnum and their customers with scalable computing capacity inside of Amazon Web Services (AWS) cloud. VenergyUI can be hosted onsite, offsite or in the cloud. The use of AWS allows Magnum to offer cost effective automation software because investments in up front hardware are eliminated. In today's environment, security is of the utmost concern and that is why Magnum leverages AWS.

Features Include:

- Single and multiple sites
- Mobile app integration
- Energy reporting
- Scheduling
- Tunable white lighting
- Space utilization



REAL-TIME REPORTING

VenergyUI allows building owners, facility managers and even utility companies access to real time energy reporting, down the individual fixture level. From the device level to the platform itself, VenergyUI offers far more than just simple ROI. Magnum's wireless end devices can monitor power reading of LED fixtures, individual lighting circuits as well as the entire building with up to 12 CT's. All data is historically captured and exports can be generated at any time.



* Some screenshots may not reflect current software build

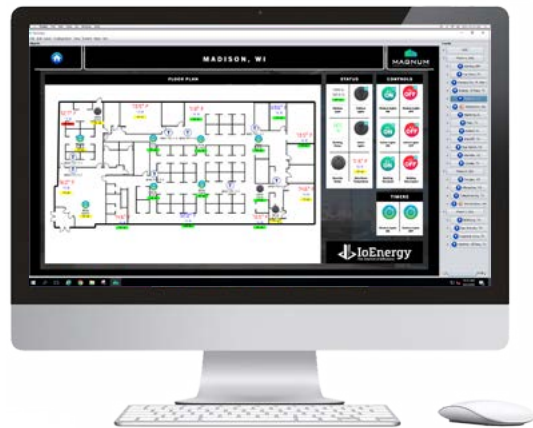
EXAMPLE DATA

- Occupancy
- Door status
- Window status
- Temperature
- Humidity
- Set point adjustments
- Device status
- Static pressure
- Light status
- Light levels
- Power reading
- Color temperature



CUSTOMIZABLE INTERFACE

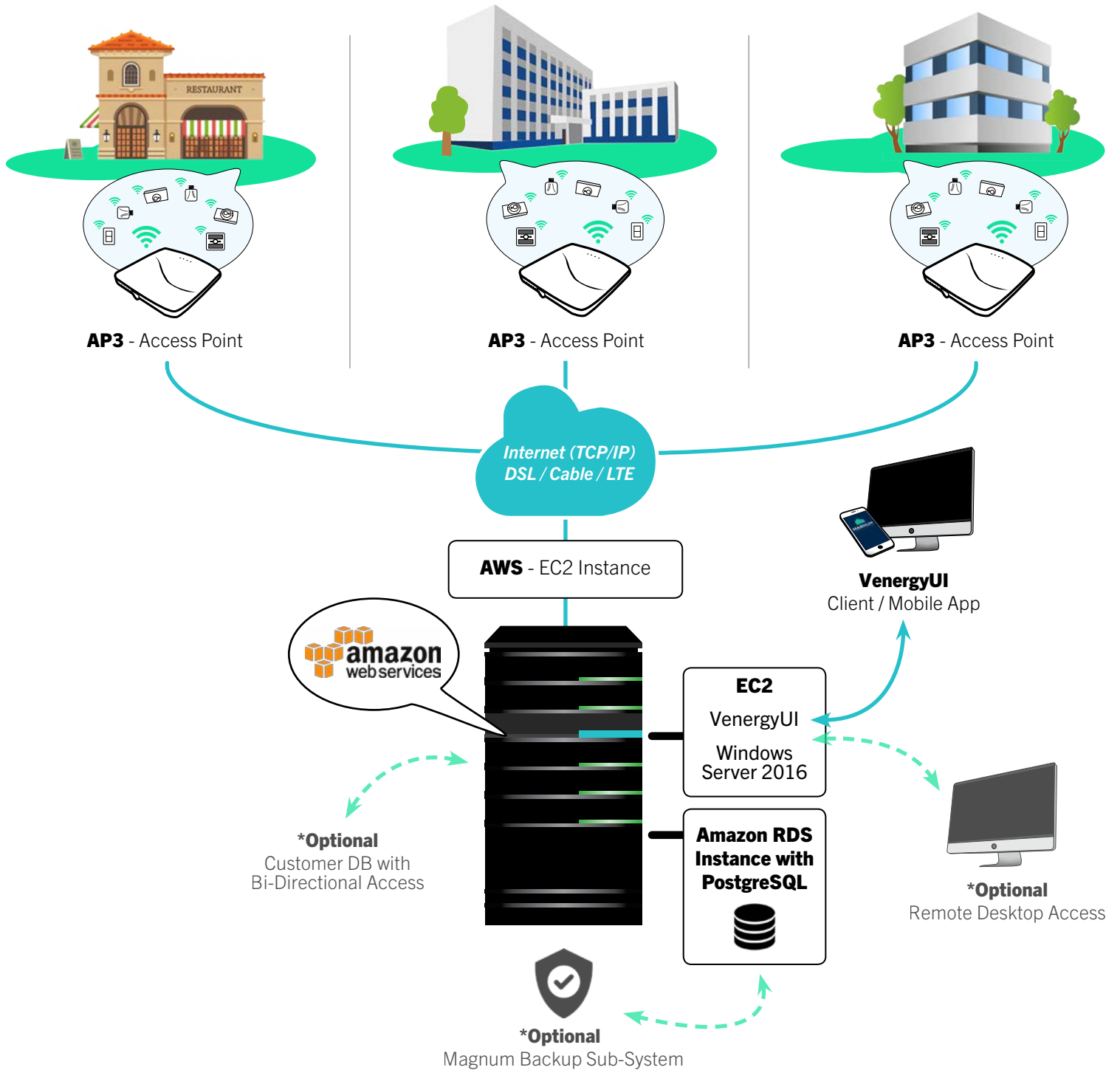
Below are some example landing pages of live VenergyUI applications of some of our key customers. Each VenergyUI instance is unique and customized to meet the requirements of the individual customer and their preferred sequence of operations and scope. VenergyUI is an easy to use graphic interface that presents critical data and notifications clearly. Commands, including macros and functions, can be easily toggled by the system administrator. Customers can choose to utilize floor plans or high resolution images as their primary dashboard.



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VENERGYUI SYSTEM ARCHITECTURE (WHEN HOSTED BY MAGNUM)

Below is a simple diagram demonstrating the infrastructure required to implement a VenergyUI application, hosted by Magnum. The use cases vary greatly and nearly any building or multiple buildings, are a candidate for VenergyUI. The Magnum access points are connected to TCP/IP and have power over ethernet capabilities already on board. When Magnum is chosen to host and maintain the VenergyUI instance, we rely on Amazon Web Services and utilize an EC2, Windows 2016 server. VenergyUI is securely hosted on the AWS cloud, allowing remote desktop access and/or mobile app integration. This set up allows Magnum to have ready access to set up the system remotely and log in to the system in the event of any issues or system modifications. The trained client can also have access to the system for monitoring and control capabilities.



MAGNUM'S ZONE CONTROLLER SOLUTION

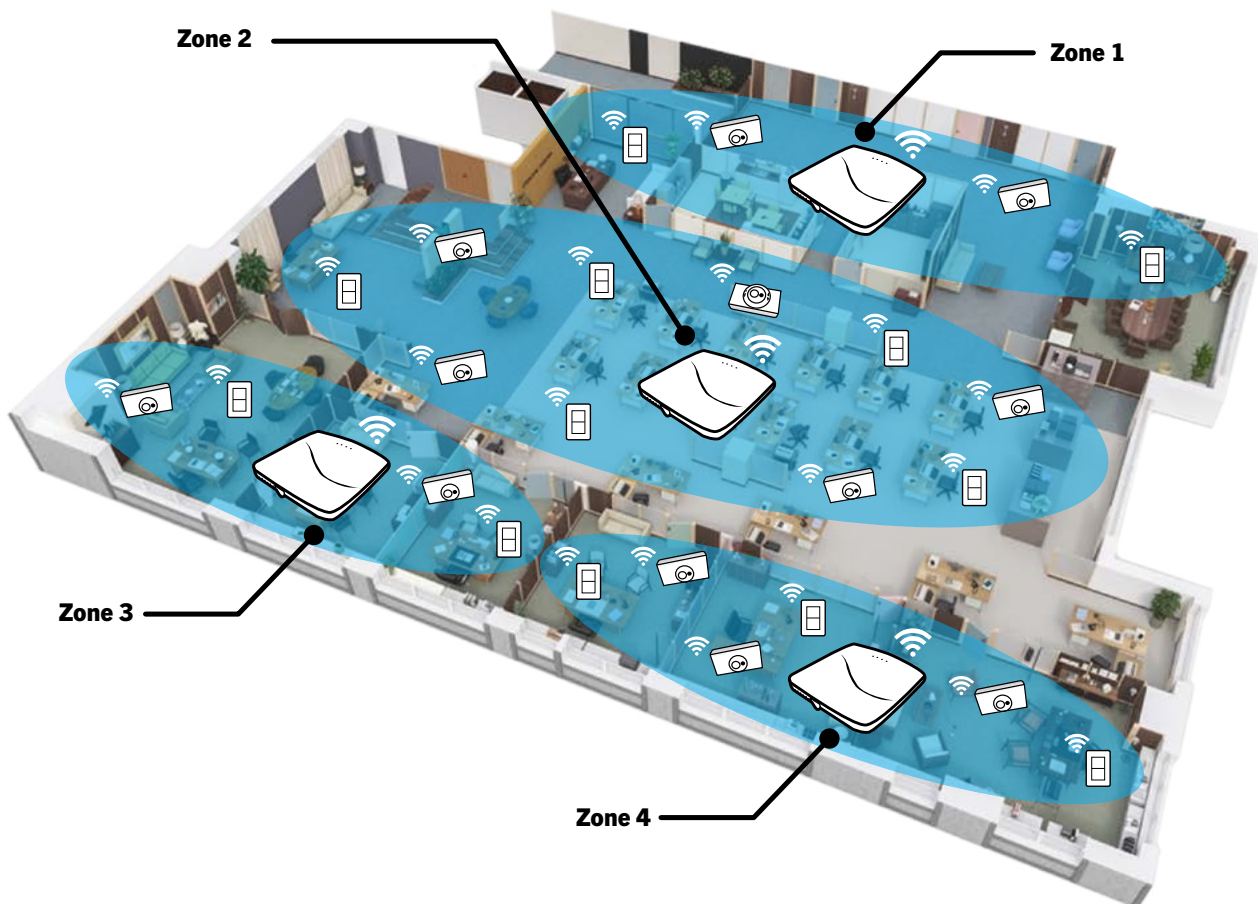
Introducing Magnum's latest innovation to Venergy, which is called our Zone Controller (ZC). The ZC enables a zone based, intelligent solution without the need of additional building management software and without the need for internet access if that is not preferred or allowed. The ZC provides a zone based connection point for Magnum's wireless devices.

Connection to the ZC can occur over EnOcean Radio (RF) or via WIFI from a laptop computer utilizing Magnum's proprietary AirConfig tool. This tool allows the user to make the Zone Controller a temporary access point. Then, VenergyUI, Magnum's core software platform, is utilized to add sensors, create outputs, build functions and establish macros. The logic set up can then be exported to the Zone Controller and with a simple reboot, the ZoneController takes over control in that space.

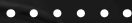
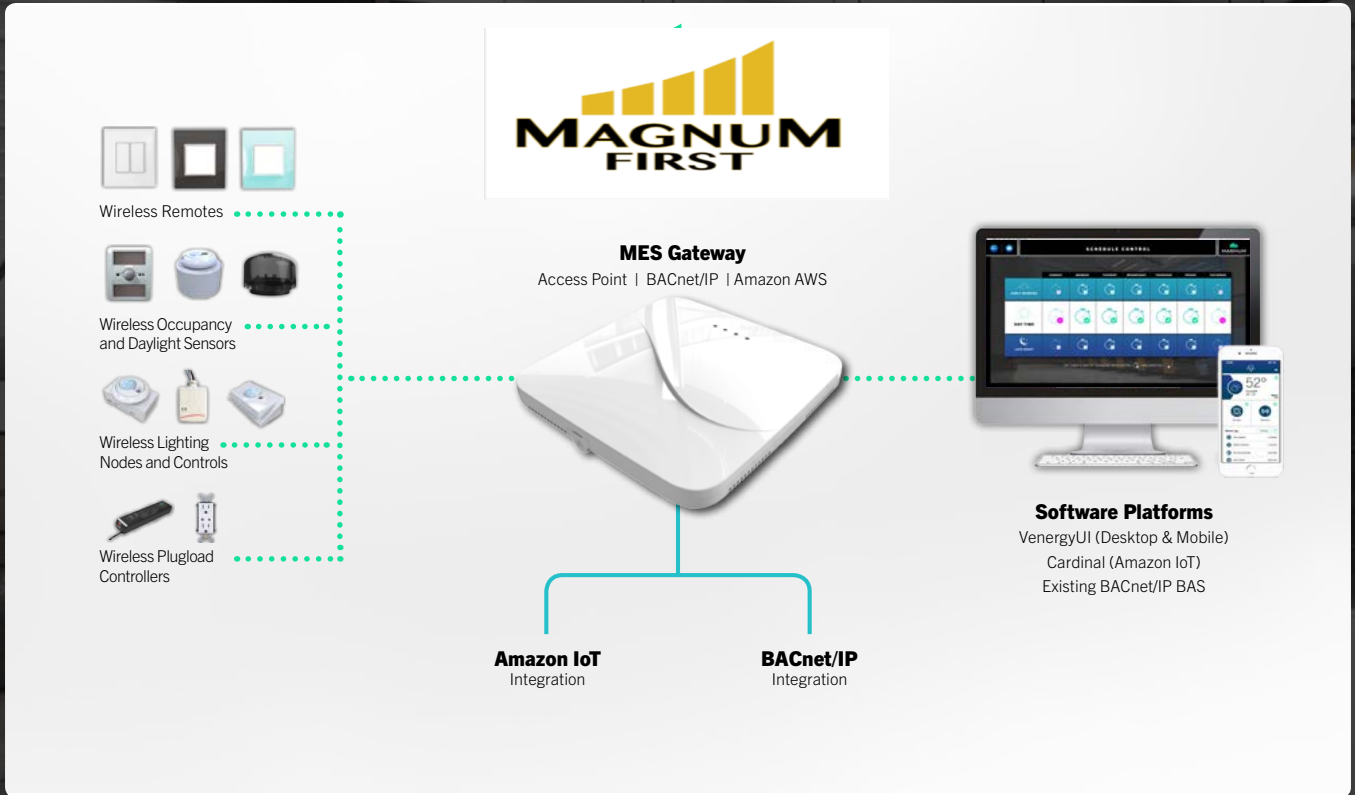
One of the major functions that this ZC solution affords over standalone control to control only, is time clock related events. Often times building owners and operators want to simulate time clock functionality when it comes to lighting controls. This function is not possible with standalone controls because the individual devices themselves don't know real time. The ZC solution, however, supports this functionality since the ZC device itself has a time clock built in.

Other important features include:

- Daylighting set point tweaking
- High end trimming
- Time clock occupancy sensor setting changes
- Multiple "steps" when unoccupied
- Firmware upgradable for future features and security patches
- Basic scheduling
- Energy reporting



MAGNUM'S WIRELESS SYSTEM



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