Vigilent®

Dynamic Cooling Management® System User Guide for Optimizing Mission Critical Cooling®

Version 6.5.1

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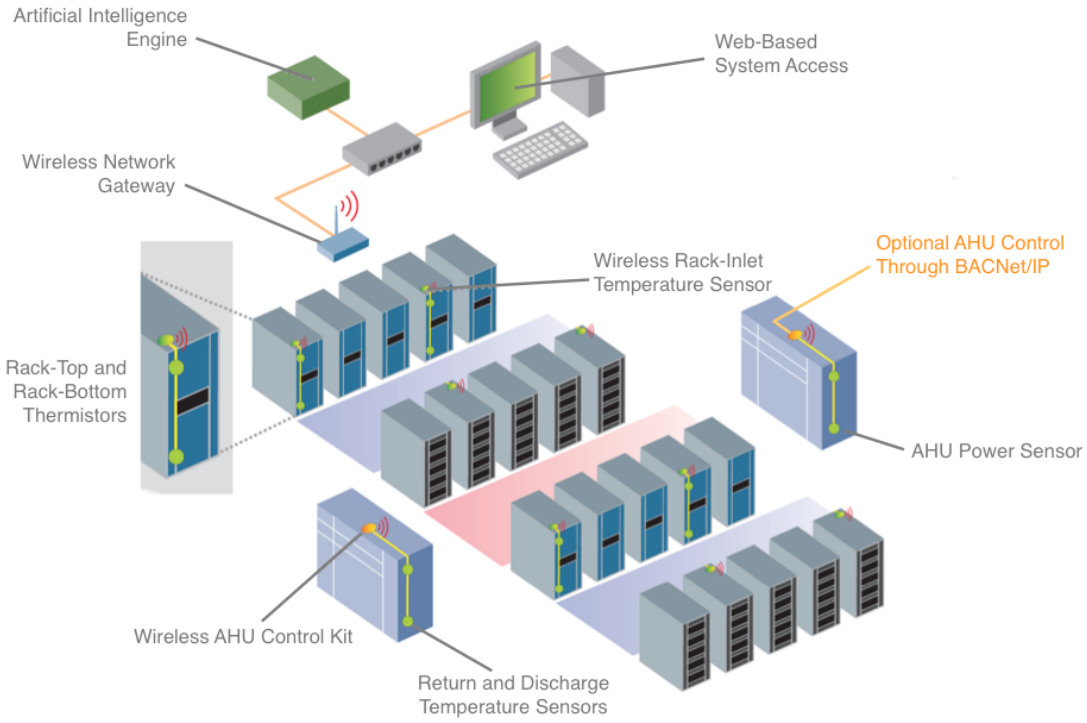
CHAPTER 1 About The Vigilent System

The Vigilent Dynamic Cooling Management System consists of hardware and software that provides closed loop control for the cooling infrastructure in mission critical environments such as data centers, colocation facilities, telcos, and commercial buildings.

The Vigilent system for data centers, colocation facilities, and telcos is different from the configuration for commercial buildings. We'll outline the differences between the two systems on this page:

Data Center, Colocation Facility, and Telco System Setup



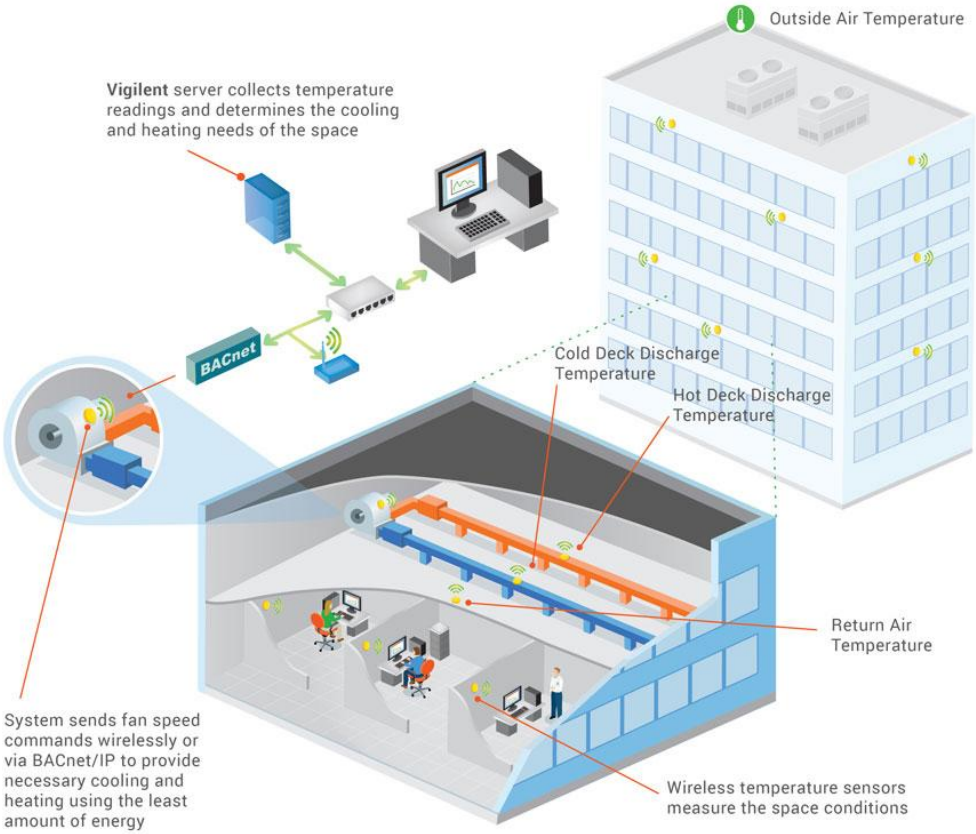
The diagram shows the major components of the Vigilent System for data centers, colocation facilities, and telcos:

- **Artificial Intelligence (AI) Engine** – The hardware appliance that runs the control software.
- **Wireless Network Gateway** – Manages the wireless sensor network and communicates to and from the AI engine.
- **Web-Based System Access** – User access to the system is done using a web browser. Learn more in the **About the VX Console** section.
- **Wireless Rack-Inlet Temperature Sensor** – Wireless sensor that measures temperature at the top and bottom of the rack inlet.
- **Rack-Top and Rack-Bottom thermistors** – Attached via a cable sleeve, these are the physical monitoring points for each temperature sensor.
- **Wireless AHU Control Kit** – Hardware device that integrates with each cooling unit to provide direct control signals.
- **Return and Discharge Temperature Sensors** – Measures the return air and discharge air temperature for each cooling unit
- **AHU Power Sensors** – Measures power for each cooling unit.
- **AHU Control through BACnet/IP (optional)** – An option to provide control via an existing BACnet/IP network.**Learn more in the BACnet AHU Control section.**

The following sensors are available with our system, but not included in the above diagram:

- **Humidity Sensor** – Measures relative humidity.
- **Pressure Sensor** – Measures under floor pressure

Commercial Building System Setup



For commercial buildings, the Vigilent system manages all AHUs in defined control groups as one single HVAC asset to control. Control commands can be sent directly using a Control Kit installed on an AHU or over an existing BACnet infrastructure.