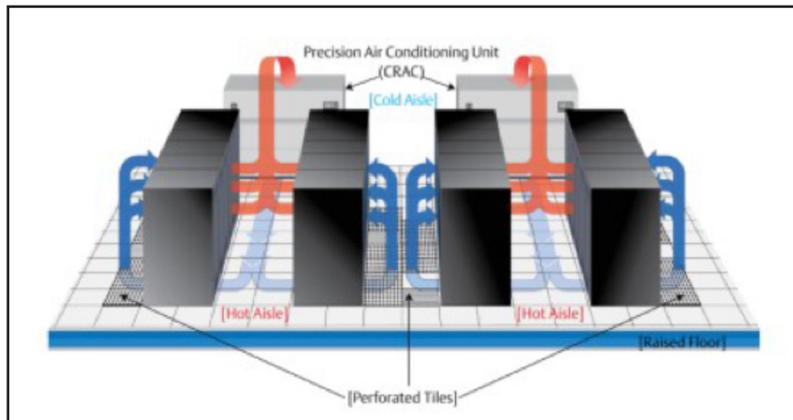


## Data Center Environmental Monitoring

Data center infrastructure growth is being driven by increased network services, expanding user base, and application such as cloud computing. These services require more computing power, which drives increased server density and the corresponding increase in heat loads, ultimately resulting in significantly increased energy costs. With data center energy consumption roughly split between powering servers and providing cooling for the heat they produce, small changes in environment temperature can result in a significant reduction in energy consumption. Environmental monitoring can provide data to produce a real-time, visual map of a data center. This enables operators to detect potential and existing problems to ensure uninterrupted operations and maintain service guarantees. The data also enables facility operators to use energy management strategies to lower costs such as raising the temperature a few degrees in some or all areas of the data center.



### Wireless Sensors

Multiple sensors options are available for monitoring temperature, humidity, dew point and more. Up to 8 sensor points can be configured for a device.

### Wireless Gateway

The wireless gateways each support up to 100 wireless sensors and 800 measurement points and connect to any BAS or IT system using industry-standard protocols.

### Product Features

**High Reliability:** An IDEAL network utilizes a combined star/mesh architecture and a wireless protocol which allows multiple routes for data to reach its destination gateway. The 2.4GHz system utilizes Direct-Sequence Spread Spectrum (DSSS) modulation that avoids RF interference, and it uses channels that will not be interfered with by WiFi. The 900MHz system uses frequency agility for robust performance.

**Low Installation Cost:** The environmental monitoring system from IDEAL is Wireless, so there are no wires, conduit, wiring trays, or other construction related activities. The sensors can be installed fast with screws, cable ties, or doubled-sided tape, and require no maintenance.

**Easy Deployment:** A comprehensive wireless temperature, humidity, dew point, and pressure monitoring network can be installed rapidly with no disruption to data center operations.

**Open Source Data:** No proprietary application software or monthly monitoring fees are required. Capture the data in your existing monitoring application with standard protocols including SNMP, XML, BACnet®, Modbus, LonWorks®, Metasys® N2, and more.

**Scalability:** The IDEAL system can be used to monitor a few servers or scale to a major data center. Each gateway supports up to 100 devices and 800 points. Additional gateways can be used for even larger deployments.

**Flexibility:** Since the sensors are wireless, they can be easily relocated to monitor a specific zone, aisle, or rack.

**Proven:** The wireless technology, based on industry standard hardware, is field-proven in numerous products and applications.

