aruba
a Hewlett Packard Enterprise company

PARTNER SOLUTION OVERVIEW

ARUBA AND ENOCEAN

Connecting Buildings With Green Energy Harvesting IoT Sensors

NETWORK AS AN IOT PLATFORM

Devices in the Internet of Things (IoT) are the eyes and ears of smart buildings, and are given voice by the IT connectivity infrastructure through which they talk with control applications. Securely and economically interfacing those devices with comfort control, energy management, lighting, refrigeration, security, and other applications can be challenging. Wired IoT systems require dedicated cabling, which is expensive to deploy and labor intensive to maintain across adds, moves, and changes. Wireless control devices are more expensive, require RF gateways, and need regular battery replacements.

As the cost of Bluetooth Low Energy (BLE) wireless technology drops, driven by high-volume consumer applications, a new generation of inexpensive BLE IoT sensors have come available. BLE helps address the issue of wireless IoT sensor cost, however, RF gateways and batteries are still required.

Next-generation building Wi-Fi deployments increasingly converge building systems, multimedia applications, and unified communication applications with high speed wireless internet access. With their built-in IoT radios, and support for external USB adapters, Aruba access points have become centralized platforms for a broad range of IoT devices. The multi-use networks they enable eliminate RF gateways, lowering installation and on-going maintenance costs.

The remaining hurdle, eliminating batteries, requires IoT sensors with regenerating power sources. Energy harvesting technology derives, captures, and stores power from external sources, e.g., kinetic, solar, and thermal. Miniaturizing energy harvesting power sources, and deriving enough power for IoT applications, is a significant challenge that few companies have solved.

WHY ENOCEAN AND ARUBA

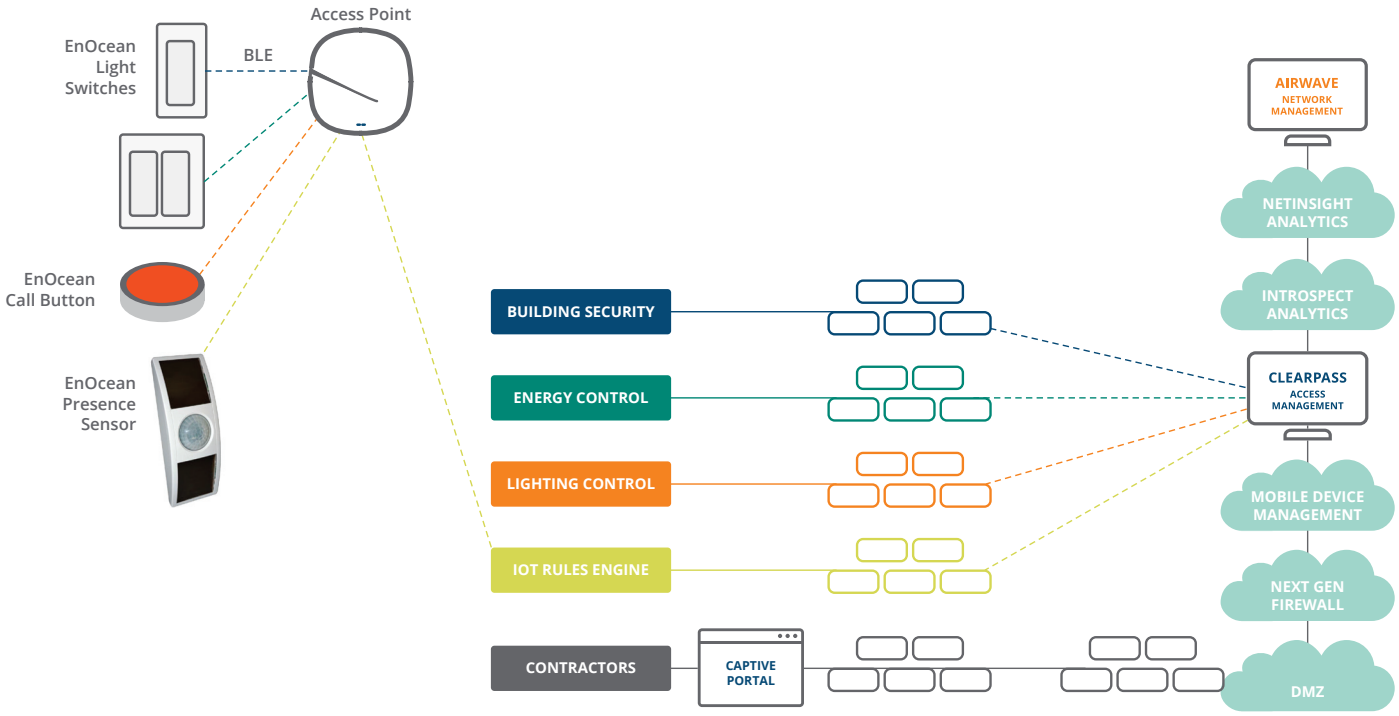
- Enhances the experiences and satisfaction of building tenants
- Lowers life cycles costs by eliminating batteries, RF gateways, and vertical wiring
- Enterprise-grade building IoT connectivity and security
- Easily retrofits to existing Aruba 802.11ac deployments
- Secure tunneling protects sensor/control communications
- Simple set-up and adds/moves/changes
- Certified interoperability across product portfolios

ENABLING THE GREEN REVOLUTION

EnOcean, a venture-funded spin-off of Siemens AG, is one of the world's largest suppliers of energy harvesting wireless IoT building controls. EnOcean and Aruba have partnered to enable energy-harvesting devices to be economically, reliably, and securely deployed over building networks in applications spanning from housing complexes to the largest campuses.

EnOcean's BLE-enabled EasyFit® and Dolphin® devices include light switches, temperature and humidity monitors, occupancy sensors, door/window contacts, and leak detectors. Kinetic and ambient light power sources does away with vertical cabling, while energy harvesting makes EnOcean devices intrinsically green and maintenance-free.

Aruba's networks have been field-proven in the most demanding smart building and intelligent space applications, and deliver the robustness and reliability needed for business-critical IoT, voice, video, data, and network access services. Network security is best-in-class.



The joint solution uses Aruba 802.11ac access points already deployed on site and running AOS 8.4 or higher. Access points act as secure communications platforms between BLE-based EnOcean devices and building automation, business-rules, cloud IoT, or other back office applications that consume their data. No RF Gateways are required in either new or retrofit deployments.

The access points establish secure tunnels to the target application server. Dynamic segmentation is maintained through the Aruba switch fabric, protecting the IoT devices against attack, and the rest of the network against compromised devices.

Aruba's "colorless switch port" concept automatically establishes the correct secure connections with access points regardless of the switch port into which they're connected. This feature greatly simplifies adds, moves, and changes during remodeling by minimizing opportunities for miswiring.

UNIQUE VALUE PROPOSITIONS

Combining a sensor, energy harvesting, radio communications, and software-programmable IoT applications opens some very unique value propositions:

- Building controls can be enabled and tested in new construction without vertical cabling prior to tenant occupancy. Once the space is built-out and occupied the sensors and controls can be relocated without wiring, and the system adjusted via changes in the control software.
- Adds, moves, and changes to a building layout don't require new vertical cable runs. Sensors and controls can be moved as needed, and any system changes can be done in control software.
- Light switches and temperature sensors – and corresponding user preferences – can be assigned to building occupants. If they change offices or locations and bring their switch or sensor with them, their lighting and HVAC preferences will follow automatically.

CERTIFIED INTEROPERABILITY

We've taken the guesswork out of smart building deployments by certifying the interoperability of EnOcean BLE devices with Aruba infrastructure. Set-up is also a breeze. Just select "EnOcean" from a drop-down menu on the access point configuration page, select the IP address of the compatible control software, and you're done. Joint deployments go in faster and are easier to maintain.

SUMMARY

Aruba's secure platform is the ideal way to support EnOcean smart building applications of any size. Contact your local sales representative to see how together Aruba and EnOcean deliver the most cost-effective, centrally managed smart building solutions in the industry.

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