Compare Zigbee and Z-Wave, 2 wireless technologies for smart home

Due to the popularity of home automation products, the number of wireless technologies that allow these devices to 'communicate' with each other has also increased. Two of these technologies are ZigBee and Z-Wave.

Because the popularity of home automation products has grown, there are also a large number of wireless technologies that allow these devices to 'communicate' with each other. Two of the technologies or languages, you'll probably meet when you set up your own smart home, ZigBee and Z-Wave.

Although both technologies allow you to control many remote smart home devices, Zigbee and Z-Wave all have their own benefits and limitations. In this article, you will also have the opportunity to learn about some of the products that support each protocol.

Comparison of Zigbee and Z-Wave smart home technology

Learn about Zigbee

All discussions about Zigbee should start and end with the important fact that, unlike Z-Wave and similar technologies, Zigbee is an open technology, meaning no one owns it. Instead, wireless connectivity is maintained and developed by the Zigbee Alliance nonprofit organization and its more than 400 member organizations.

Why is that important? Because of Zigbee's open standards, it will almost certainly not grow in any particular direction. Instead, it will continue to evolve as the needs of member organizations change over time. For those worried about ever-changing technology, this is remarkable, and can give you peace of mind.

How does Zigbee work?

Zigbee uses a grid system, where information from one device is transmitted to another device, using a wireless signal. By doing so, the device can 'talk' to each other. When a device loses connectivity, alternative routes remain, allowing the entire system to stay online. Data transmission by this method does not require high-powered transmitters, which makes it an ideal solution for situations that require a large number of automated products.

Although originally developed for commercial use, Zigbee is now a solid choice for both the residential and industrial sectors.

Advantages of Zigbee

1. Easy setup, does not require control center or controller.
2. You can control and monitor products remotely or by mobile device.
3. Scalable, supports up to 65,000 devices on one setting.
4. Encrypt AES-128, providing complete peace of mind when using.
5. Speed ??40-250 Kb / sec.

Disadvantages of Zigbee

1. Not as secure as other systems (such as Wi-Fi).

2. Walls and other obstructions can significantly reduce transmission power.

Compatibility with Smart Home

In the smart home space, you will find many products that are compatible with Zigbee, including smart lights, switches / plugs and monitoring systems. The most popular of these is the Philips Hue lighting system, which first appeared in 2012.

Are you looking for something a little different? Refer to TRÅDFRI lighting products 2017 compatible with Zigbee of IKEA - products are becoming increasingly popular.

What about a smart home system all in one? Iris by Lowes **(https://www.irisbylowes.com/products/#!/)** provides a growing line of security and automation products for smart homes, using Zigbee technology. Samsung SmartThings Hub also works with Zigbee.

In addition, Comcast, Honeywell, Intel, Kwikset, WeMo and the popular Nest Learning Thermostat also support Zigbee.

Learn about Z-Wave

Z-Wave is a wireless communication protocol developed by Zensys in 2001. 7 years later, Sigma Designs bought this technology exclusively.

Like Zigbee, Z-Wave includes a network that uses low energy radio waves to communicate. Mainly used to connect automatic lighting devices, heating utilities, security tools and other smart devices.

Unlike Zigbee, Z-Wave is not open system and therefore, it is only for customers of Zensys and Sigma Designs. Although this initially seems like a limitation, it is really one of the biggest strengths of this protocol. One of the most important advantages of a closed system is safety. Each Z-Wave network and its products have a unique ID that is used to communicate with your center, and this ID adds another level of security that exceeds the AES-128 encryption level.

Advantages of Z-Wave

1. The communication process is reliable and safe
2. Simple installation

3. Low power consumption
4. Can be remote or local control

Disadvantages of Z-Wave

1. It only supports 232 buttons, significantly less than the 65,000 buttons supported by the Zigbee standard
2. Relatively slow, only supports data transfer rates up to 100 Kb / sec

Because it is a closed system, there is a risk that Z-Wave may suddenly be removed from the market. However, this may not happen, because the Z-Wave Alliance consists of 450 members and 1,700 certified products. In other words, Z-Wave will last a long time.

Compatibility with Smart Home

There are many Z-Wave smart home compatible products, including lights, sensors, smart locks, thermostats and more.

For security products, you cannot cause errors with Schlage smart locks or Piper's all-in-one wireless system. First Alert 2-in-1 smoke detectors and popular Carbon Monoxide alarms are also worth considering. Thermostats compatible with Z-Wave include thermostats from GoControl and Honeywell, and many other devices.

Which one is better?

Zigbee and Z-Wave are both good products, with their own advantages and disadvantages. Z-Wave is often criticized for being a closed system. However, one of the advantages of this is the control it gives homeowners. The Z-Wave Alliance ensures that all Z-Wave devices comply with a strict set of standards. In contrast, although open source, Zigbee sometimes fails because of the lack of interoperability.

The Smart Cave explains as follows:

'A product can be certified hardware but its software does not. As a result, products are broadcasting ZigBee signals but not using the appropriate ZigBee software. Products like this can be labeled "ZigBee-ready". Customers can buy the product and expect it to work with all other ZigBee products, but that won't work. "

From a user's perspective, most people will be satisfied with products from either of these technologies. Fortunately, more and more smart home devices are compatible with not just one standard, so you don't have to choose one of these two technologies. For example, the Samsung SmartThings hub can use both protocols.

Also, thanks to **IFTTT.com,** even smart lighting products using different standards can work together. In other words, even if they are incompatible, your smart lighting solutions can also be tied together, using this free web-based service and application.

The smart home industry will continue to change in the next few years and will become more and more popular. What is almost certain to be unchanged is the industry's dependence on Zigbee and Z-Wave protocols, to allow devices to communicate with each other. Each has a large number of compatible products included.

What wireless protocols do you use for smart household products? Let us know in the comments below!

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