

HUBS

IN RELATION TO IOT

WHAT IS A HUB?

A smart home hub is hardware or software that connects devices on a home automation network and controls communications among them.

Smart home hubs, which connect either locally or to the cloud, are useful for internet of things (IoT) devices that use the Zigbee or Z-Wave protocols or Bluetooth, rather than Wi-Fi.



WHO ARE SOME OF THE MAJOR PLAYERS?

The Samsung SmartThings Hub supports Zigbee, Z-Wave, Bluetooth and Wi-Fi.

It hardwires to the home router and offers a battery backup. The hub is compatible with more than 200 devices and third-party services, including Amazon Alexa, Google Assistant, Philips Hue, Ring video doorbells, ADT security, Schlage locks and Honeywell thermostats. It is Android and iOS compatible. Samsung's Connect Home mesh Wi-Fi router offers built-in SmartThings integration.

The Wink Hub supports Zigbee, Z-Wave, Bluetooth and Wi-Fi.

Unlike many other home automation hubs, it talks to the home internally, rather than relying on cloud connectivity. Also Android and iOS compatible, it offers numerous integrations, such as Kwikset locks, Nest thermostats, GE smart lightbulbs and Google assistant.

Phillips hue

Philips Hue works with your favorite smart home brands. Alexa, Apple Home, Google Assistant, IFTTT, logitech, nest Smart things, xfinity Home



A FEW WORDS ABOUT PROTOCOLS AND FORMATS

We consider each protocol a radio because there is a radio frequency involved.

That is one IOT device may be on 2.4GHz and another on 5GHz. This requires two separate radios (both transmitter and receiver).

Also the protocol formats (what information is passed and how) is usually controlled by one computer within the hub.

Because each company wanted to be different and make you use their protocols (and the hubs they developed) , there was very little standardization. After a number of years, certain protocols have emerged as more popular than others but still there is no single standard.



WHAT ARE SOME OF THE FORMATS AVAILABLE?

Bluetooth

Clear Connect

echobee

GE Link

Kidde

Insteon

Lutron

Philips Hue

Wifi

ZigBee

Z-wave

As you can see there are numerous formats and each has a different way of sending signals to actuate the IOT device.

Note that Wifi is generally at 2.4GHz frequency that almost all of your stuff already works on. This frequency is getting extremely crowded. Also your microwave oven is in the band although not on the same frequency. Yup, conflict is just waiting for a chance here...

WHICH HUBS HAVE WHAT (PRELIMINARY)

HUB Unit	Wink	wink 2	Insteon	Revolv	Securifi	Smart Things	Staples Connect	Vera Control	Phillips Hue
Cost	\$69.00	\$99.00	\$119.00	\$299.00	\$53.81	\$80.00	\$80.00	\$101.43	\$47.89
Works with									
Alexa	X	X	X		X	X		X	X
Google			X						X
Siri									
Cortana			X						
WiFi frequencies 2,5,both,Ethernet	2	both, E							
Supported Protocols									
Bluetooth	X	X					X		
Clear Connect	X	X							
echobee							X		
GE Link					X				
Kidde	X	X							
Insteon				X					
Lutron	X	X							
Phillips Hue					X		X		X
Wifi	X	X		X					
ZigBee	X	X		X			X		
Z-wave	X	X		X	X	X		X	



TRYING TO BE EXCLUSIVE

Companies like Phillips Hue are trying to get you to use only their products (naturally).

So they make their products so they are hard to duplicate both on a physical basis and they have legal protection as well.

Along comes a number of products like Amazon, Google, and Smart Things and because of their popularity, they make agreements with many hub makers. This creates a gray area where the smart speakers etc. work as hubs.

We shall see what the future brings as items are blended together even more.

I predict that there will be more integrations as smart speaker manufacturers continue to add protocols to their products and operational claims grow.



EVEN AMAZON ECHO IS JUMPING IN !

You can look here at the things the Echo can now do and see how it grows over time.

Does Amazon want to take over the world? Of course ! It's good for business.

https://www.amazon.com/b/ref=ods_aucc_dp_sh_rd?node=6563140011



AND SO IS GOOGLE HOME

Google is not known for selling everything you can think of but it is known for software. Just look at your smart phone...

I am pretty sure that they see Amazon as jumping into their (Google's) territory providing a unit that is so software intensive. But then again Amazon was first to market...

<https://assistant.google.com/explore/c/19/>



EPITAPH

I chose this subject because at the moment there are lots of hubs to consider for home IOT. However my investigations on the web show a big tendency to eliminate the hubs in favor of smart speakers. More and more functionality is being designed into smart speakers so more and more market share can be grabbed.

I suspect that in not too long hubs will be in the past and (UGH) our poor little 2.4GHz frequencies will get overloaded even more.

I wonder what the FCC will allocate next when they finally decide to do something about the over crowding..

Thanks



REFERENCES

<https://internetofthingsagenda.techtarget.com/definition/smart-home-hub-home-automation-hub>

<https://www2.meethue.com/en-us>

https://store.google.com/product/google_home

https://www.amazon.com/All-new-Echo-Show-2nd-Gen/dp/B077THMYGN/ref=sr_1_9?s=amazon-devices&ie=UTF8&qid=1539212119&sr=1-9&keywords=echo

<https://www.wink.com/products/>

https://www.ebay.com/sch/i.html?_from=R40&_trksid=p2060353.m570.l1313.TR1.TRC0.A0.H1.Xwink+compatible.TRS0&_nkw=wink+compatible&_sacat=0

https://www.ebay.com/sch/i.html?_from=R40&_trksid=p2334524.m570.l1313.TR3.TRC2.A0.H0.Xalexa+compatible.TRS0&_nkw=alexa+compatible&_sacat=0&LH_TitleDesc=0&_osacat=0&_odkw=wink+compatible

https://www.ebay.com/sch/i.html?_from=R40&_trksid=p2334524.m570.l1313.TR1.TRC0.A0.H0.Xgoogle+compatible.TRS0&_nkw=google+compatible&_sacat=0&LH_TitleDesc=0&_osacat=0&_odkw=alexa+compatible&LH_TitleDesc=0

