

Smart Self Reliance

GLOSSARY of TERMS

Sources: The terms contained in this glossary combine those found in glossaries compiled by: CRT Labs at The National Association of Realtors (<https://crtlabs.org/smart-homeglossary/>); the Home Automation Glossary (<https://www.vesternet.com/resources/glossary>); and Smart Grid Today: (<https://www.smartgridtoday.com/public/Glossary2.cfm>). Definitions reproduced from Smart Grid Today are with the limited permission. To view the full glossary on Smart Grid Today's website, please visit: <https://www.smartgridtoday.com/public/glossary.cfm>.

Actuator: A device that is triggered by a sensor.

AirPlay: The wireless protocol used by Apple to allow for audio and video streaming over a wireless network between compatible technologies.

Application (APP): A term used to describe an application that runs on mobile technologies such as personal smartphones and tablet computers.

Automated or Advanced Metering Infrastructure (AMI): A utility infrastructure with two-way communications for metering and associated systems allowing delivery of a wide variety of services and applications to the utility and customer.

Applet: The IFTTT Applet triggers an action or response using the IFTTT web service whenever an event occurred. (If this happens, do that) or (If this happens, do this, and then this, and then this).

Automation: The ability for your home or technologies to react without input from humans. For most smart homes, this is achieved by having multiple technologies communicate with each other, including sensors, cameras, and other products, to achieve varying levels of automation.

Bluetooth LE/ Bluetooth Smart: A wireless protocol that is popular among smart home technologies.

Cloud-to-Cloud: Many smart home products use cloud services for their core functionality. Although it is not ideal having your technologies relying on an internet connection, it does sometimes allow for increased interoperability. Two technologies in the same room might not be able to communicate directly. Instead, messages are sent back and forth through their respective cloud services over the internet. This is known as "cloud to cloud" and is becoming a popular way for hardware vendors to increase compatibility.

coMesh Network: Protocols that are designed using a mesh network means products can pass messages from device to device in a "hopping" fashion until the final destination is reached. Every device in your home acts as a range extender; the more technologies you have, the more powerful/ reliable your network becomes.

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Device: A specific electronic product that can be controlled through the wireless network. The device can be a local wireless controller, which controls a specific light or appliance (usually connected to it by mains wiring), or a sensor that provides input to the network. Each device is seen as a network Node.

Digital Home Assistants: Digital applications that use voice recognition to aid in the control of a smart home. Amazon's Alexa, the Google Assistant, and Siri are all examples of voice assistants that are designed to control smart home technologies.

Dimmer: A wireless controlled device that controls the brightness, as well as the On/Off state of a local light.

Ethernet: Common system to create a computer network using cables (wired network). This system is less common in homes, where the more convenient Wi-Fi (wireless) system is used. However, the wireless Router typically includes Ethernet sockets so that a PC or other device can be directly connected to it.

Event: A set of commands that is instigated following a trigger from a device or sensor. For instance, when a motion detector is tripped a light comes on.

Gateway: Connects your home automation network to the Internet. The Gateway enables you to control the network and all the technologies on it from anywhere in the world using a computer or smartphone. It also enables your network to send and retrieve information from specific remotely located servers.

Geofence: A virtual perimeter for the real world. Using your Wi-Fi, Bluetooth, or GPS radios, your Smart Home software can trigger events based on your physical location. For example, you can use a geofence to automatically turn off your lights when you leave for the day.

Groups: A collection of individual technologies, which can be controlled as a group. For instance, a controller can switch them all on with one action, rather than having to turn on each device individually.

Home Automation: All aspects of adding control to your home and appliances. It can be as simple as adding remote control to a few lights or creating a more complex system that includes automatic sensors and security systems.

Hub: The central device that allows all the different products (lights, locks, thermostats) to work together. Most hubs will also act like a universal remote, as well as providing the tools necessary to automate your technologies.

IFTTT: "If This, Then That" allows users to connect multiple technologies by creating "recipes" for products that may not natively speak to each other. For instance, you can have your lights flash on and off when you need to leave work at 5 p.m. if you find yourself often late to dinner.

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Interoperability: The ability for different smart home technologies and services to reliably work together.

IoT (Internet of Things): A broad term that refers to everyday technologies such as lights, thermostats, and locks that can connect to the Internet and to each other. These connected technologies can exchange data and work together, automating tasks that used to be manually performed.

Internet Protocol IP: A device that can send information using a computer network or the internet. It is commonly used with security cameras.

Load: An electrical load is an electrical component or portion of a circuit that consumes electric power such as appliances and lights.

Network: Two or more technologies connected together. This enables the technologies to be controlled and to communicate with each other. The reason for home automation it is typically referred to a Wireless Network as a Network.

Pairing: The process to add a device to a wireless network. When paired, the device can be controlled by the network.

Portable Controller: A network controller that can be moved around the home. These controllers are normally hand-held and battery-powered.

Protocol: The language that technologies use to send commands to one another. Examples of popular smart home protocols include X10, Bluetooth Low Energy, Z-wave, and ZigBee.

Router: Connects a local area network (LAN) to the Internet.

Sensor: Offers a wide variety of information that can tell you not only about things going on in your home, but also be used for home automation. Presence sensors can detect if people are in a certain area, detect motion indoors and outdoors, gather indoor environmental quality factors, and report this information to other technologies using IFTTT, a smart home hub, or other protocols to make devices like lights, fans, and heating, ventilation and air condition (HVAC) units run.

Setpoint Temperature: The temperature that the thermostat is set to. If the room's temperature is below the setpoint temperature, the thermostat will send a signal (or close a switch) to turn on the heating system.

Smart Assistant: The virtual person that “lives” in a hub to assist you such as Amazon’s Alexa or Apple’s Siri.

Smart Grid: A nickname for the utility power distribution grid enabled with computer technology and two-way digital communications networking.

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Smart Locks: Technologies that connect to your existing door or dead-bolt locking system and are operated via a wireless signal and controllable through an interface on a smartphone, watch or tablet.

Smart Meter: A utility meter for electricity, natural gas or water, usually, that always includes two-way communications technology (see AMI).

Smart Outlets (also called 'Smart Plugs'): An adaptor that is used for 'non-smart' technologies that allows them to be remotely controlled (either by voice or app).

Virtual Private Network (VPN): A method of keeping the presence of and network technologies belonging to particular users secure and hidden from other users on the same network infrastructure.

Wi-Fi: A local area network that uses high frequency radio signals to transmit and receive data over distances of a few hundred feet.

X10: One of the oldest protocols still used in home and building automation. Developed in the in the 1970s, it uses the power lines in your home to allow communication between technologies. This simple system is very reliable, but not as capable as modern protocols.

Z-Wave: A wireless communications protocol designed for home automation. It is mainly used in the residential space to provide a simple yet reliable way to wirelessly control lighting, locks, HVAC, and window treatments.

ZigBee: A low-cost, low-power, wireless mesh network designed to be used with technologies or sensors that had very low power consumption and did not need to send large amounts of data.

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