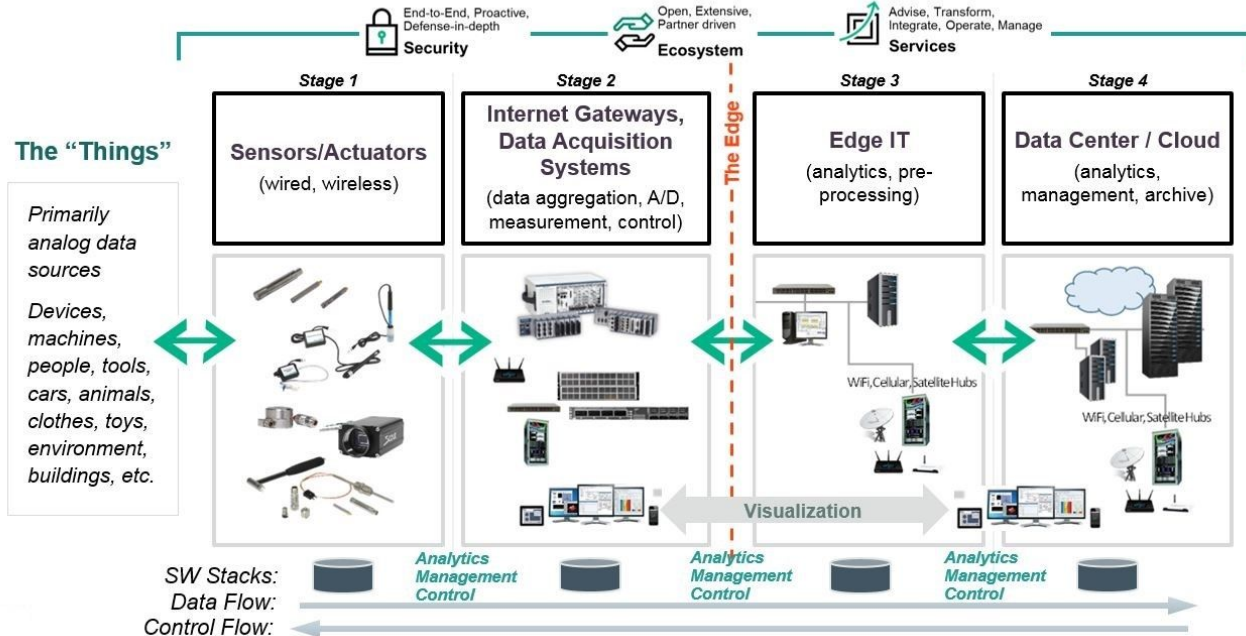# IoT Architecture and Applications with Smart Home Automation

Stages of Architecture

The 4 Stage IoT Solutions Architecture

STAGE 1(SENSORS):

Thermistor

RTD

LM35 IC

LM92 IC

Thermocouple

Is used to acquire data for further analysis as an intent container.

STAGE 2(ROUTERS):

Is used to send the data acquired from the sensor to the database.

STAGE 3(DATABASE):

All relevant data is accessed and processed here for utilization.

STAGE 4(APPLICATION):

Intent is complete.

Smart Home Automation:

HOME SMART HOME

Usually equipped with a Microcontroller, it works for what it is named for; Making your Home Smart. Microprocessors are used too but again it is Application Specific. All the inputs and output parameters are controlled within the Server which can be user-coded or pre-built in your Email account.

Raspberry Pi
- The future of mini computers

- Runs on linux.
- Has 4 USB Ports for different usage.
- Can be coded with python.

Some of it's modules affixed in general:

1. Photo-sensors for lighting applications.
2. Passive Infrared Sensors to Detect Incoming Person and open the door. *
3. Fingerprint scanners.
4. Temperature sensors.
5. Gas sensors.

Advantages:

- Better accountability of using the available technology.
- Better Security.
- Efficient working and better economy on Electricity Bill.
- Better Safety.
- Saves time.

Thank you!