

Internet of Things— Definition, Vision and Concept

“Internet” Definition

- Internet
- A vast global network of connected servers, clouds, computers, tablets, mobiles, devices and systems
- Uses the Internationally used protocols and connecting systems.

“Internet” Usages

- Enables sending, receiving, or communicating the information, messages, alerts,
- Between devices, sensors, servers
Cloud services, applications,
business processes.....

“Things” Definition

- Thing refers to a physical object, an action, idea, situation or activity, in case when we need not be precise.

Internet of Things- Wikipedia Definition

- The network of physical objects or "things" embedded with electronics, software, sensors,
- Connected so as to enable achieving greater value and offer service by exchanging data with the manufacturer, operator and/or other connected devices

..... Internet of Things- Definition

- Each thing uniquely identifiable
- Things embedded with sensors and computing system
- Able to interoperate within the existing Internet infrastructure

“Internet of Things” extends Internet uses

- Internet of Things (IoT) extends the uses of Internet by providing the communication, and thus inter-network of the physical objects, devices, machines, vehicles; all referred as “things”.

Start of “Internet of Things” Concept Development

- Concept of IoT started with things with the communicating devices for the identity, called RFIDs
- RFIDs connect to Internet
- RFID– Radio Frequency Identification

“Internet of Things” Devices Concept

- Connected devices could be tracked, controlled or monitored using remote computers, Applications, Business Processes,

Smart Devices

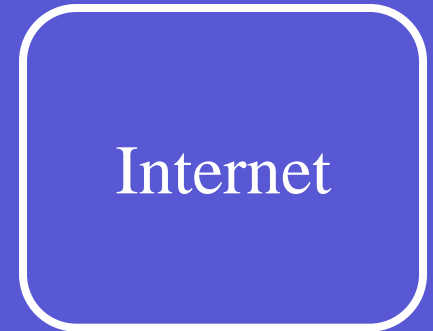
- Embedded devices with computing and communicating capabilities

A Smart Umbrella

Flashing LED



Weather
Website



Smart Hyper-connected Devices

- Hyperconnectivity: ‘use of multiple systems and devices to remain constantly connected to networks, social networks and streams of information’
- Smart devices constantly connect to networks
- For example, a streetlights network constantly connected to a central controlling station/server

IoTs Vision

- A vision where things (wearable, watch, alarm clock, home devices, surrounding objects with) become smart and behave alive through sensing, computing and communicating systems

.....IoT Vision

- A vision where embedded devices interact with remote objects or persons through connectivity, for examples, using Internet or Near Field Communication or other technologies.

Summary

We learnt

- (i) Definition of Internet,
- (ii) Definition of the Thing and
- (iii) Definition of Internet of Things
- (iv) IoT Vision

End of Lesson 1 on Internet of Things— Definition, vision and concept