



# SNS College of Engineering

An Autonomous Institution

Accredited by NAAC-UGC with 'A' Grade,  
Approved by AICTE, Recognized by UGC and Affiliated to Anna University, Chennai

Redesigning Common Mind & Business Towards Excellence



Build an Entrepreneurial Mindset Through Our Design Thinking Framework

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

# Internet Of Things



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# What is IOT



- ❖ The interconnection via the internet of computing devices embedded in everyday objects, enabling them to send and receive data.
- ❖ The Internet of Things is the network of physical objects or "**things**" embedded with electronics, software, sensors, and network connectivity, which enables these objects to collect and exchange data.
- ❖ It allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration between the **physical world and computer-based systems**, and resulting in improved efficiency, accuracy and economic benefit.



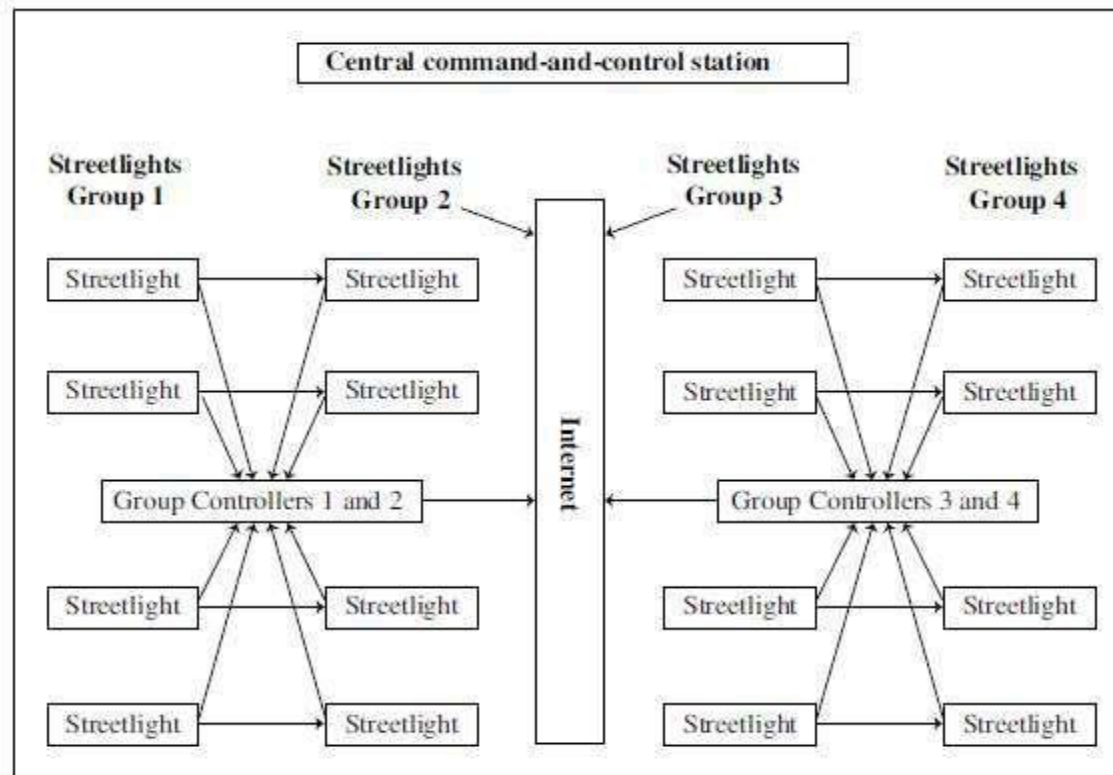
# What is IOT



- ❖ **"Things,"** in the IoT sense, can refer to a wide variety of devices
  - such as heart monitoring implants, biochip transponders on farm animals, electric clams in coastal waters, automobiles with built-in sensors, DNA analysis devices for environmental/food/pathogen monitoring or field operation devices that assist fire-fighters in search and rescue operations.
- ❖ These devices collect useful data with the help of various existing technologies and then autonomously flow the data between other devices.

# About IoT

- Streetlights in a city can be made to function like living entities through sensing and computing using tiny embedded devices that communicate and interact with a central control-and-command station through the Internet.

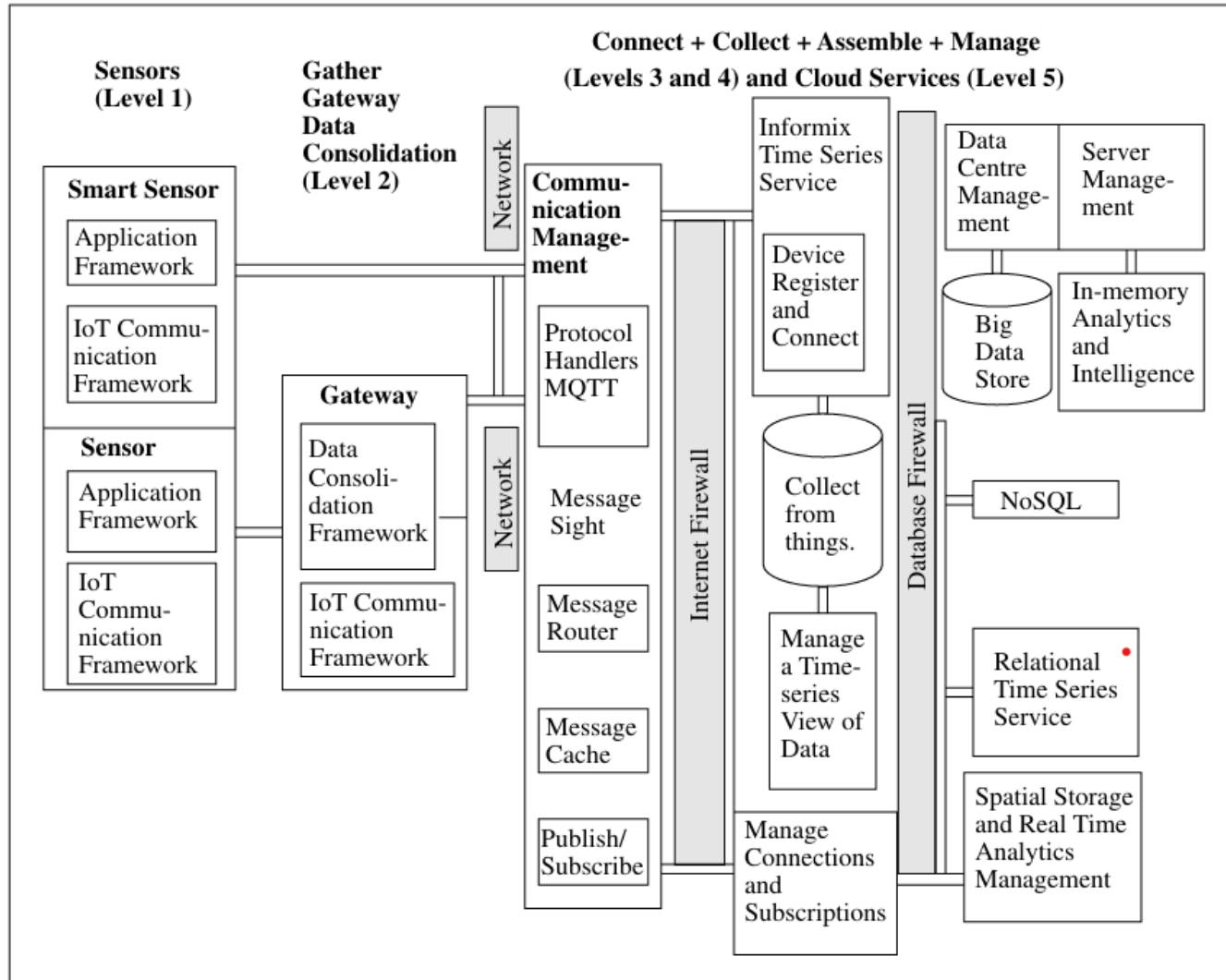




# IoT Conceptual Framework



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# IoT Conceptual Framework



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- ❑ Various conceptual frameworks of IoT find number of applications including the ones in M2M communication networks, wearable devices, city lighting, security and surveillance and home automation.
- ❑ Smart systems use the things (nodes) which consist of smart devices, smart objects and smart services.
- ❑ Smart systems use the user interfaces (UIs), application programming interfaces (APIs), identification data, sensor data and communication ports.

- *Adrian McEwen and Hakim Cassimally* equation is a simple conceptualisation of a framework for IoT with connectivity to a web service:

**Physical Object + Controller, Sensor and Actuators + Internet = Internet of Things**

- An equation to conceptualise a general framework for IoT with connectivity to a data centre, application or enterprise server for data storage, services and business processes is:

**Gather + Enrich + Stream + Manage + Acquire + Organise and Analyse  
= Internet of Things**

Orcalc suggested IoT architecture is the basis for this equation.

- Another equation which conceptualises the general framework for IoT using the cloud based services is:

**Gather + Consolidate + Connect + Collect + Assemble + Manage and Analyse  
= Internet of Things**



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sign Thinking FrameWork

Thank  
You