



# **SNS COLLEGE OF ENGINEERING**



**Kurumbapalayam(Po), Coimbatore – 641 107**

**Accredited by NAAC-UGC with 'A' Grade**

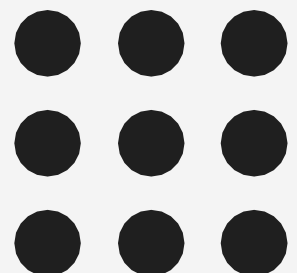
**Approved by AICTE, Recognized by UGC & Affiliated to Anna University, Chennai**

## **Department of Information Technology**

**Course Name – Internet of Things**

**III Year / V Semester**

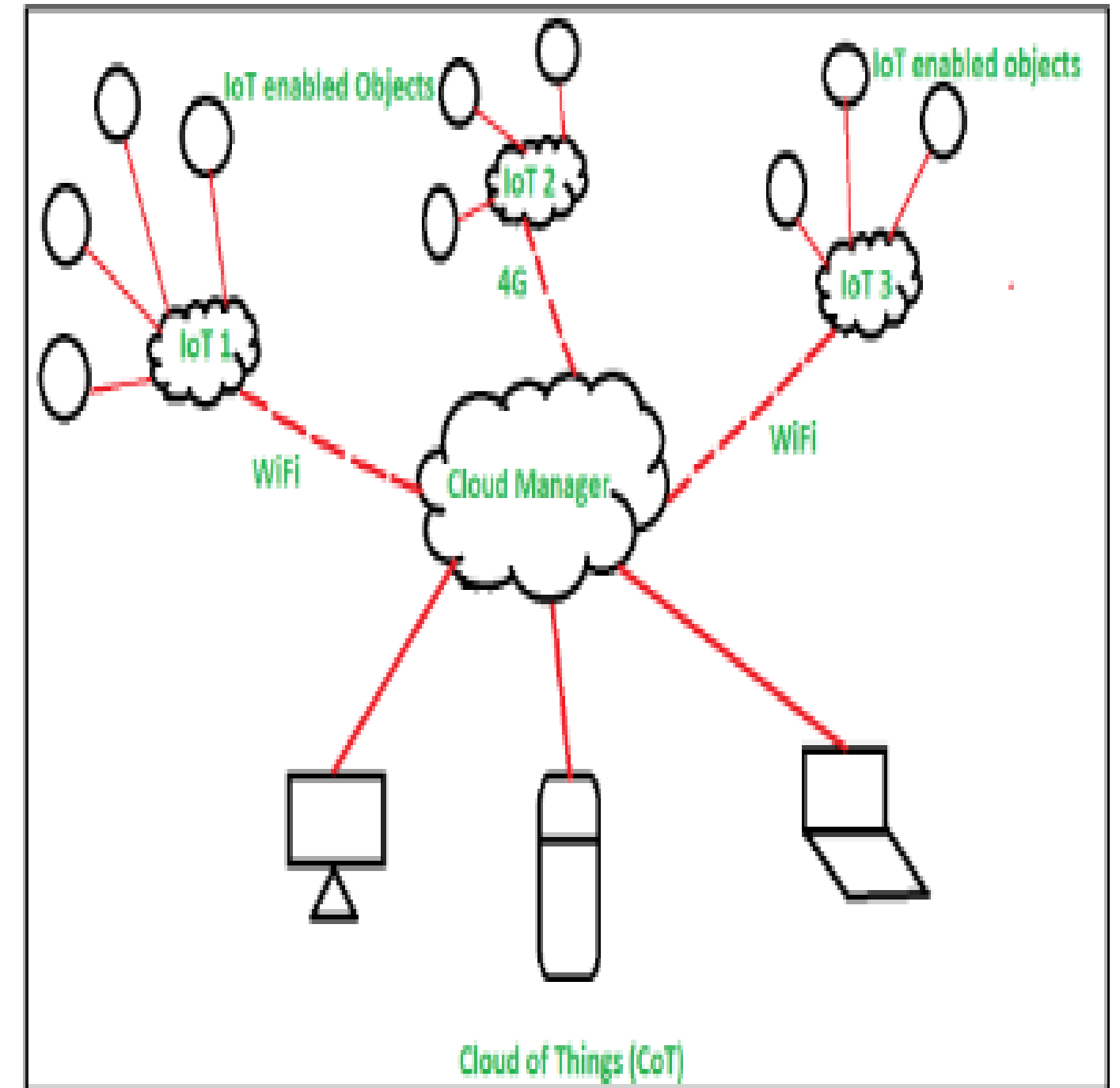
**Unit 3- INTERNET OF THINGS CHALLENGES**



# Cloud of things (IoT + Cloud Computing)



- Idea behind IoT and the Cloud computing is increase efficiency in the day to day tasks, without disturbing the quality of the data being stored or transferred.
- Since the relationship is mutual, both the services complement each other effectively.
- The IoT becomes the source of the data, while the Cloud becomes the ultimate destination for it to be stored.
- Companies likes Amazon AWS, Google and Microsoft will become the undisputed leaders of Cloud IoT Services, making the challenge even more worthwhile.





## Some more Reasons which Highlight the Importance of the Cloud in the World of IoT are:

**Reduced cost of ownership:** The Cloud technology provides ample resources to businesses so that they do not have to spend through the nose on setting up their infrastructure. In the absence of on-site systems, hardware and software, the IT department is more focused on their day to day up keeping activities, which are often an evident benefit with the Cloud.

**Business continuity programs:** The Cloud computing is capable of running businesses even in the midst of sudden disasters. Since the data is maintained on additional separate servers, there is no imminent danger to the private data, making the Cloud an indispensable part of Internet based firms.

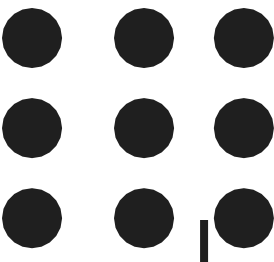


## How will the IoT and the Cloud Expand?

**Startups:** As more and more Cloud vendors pop up, startups will continue to evolve and become more efficient, making the technology flow stronger yet smoother. The transition from one source to another will become a cinch, making the Cloud a strong place to function.

**Developing countries:** The strongest and biggest source of revenue for the Cloud comes from the developing countries, as they are trying to play catch up with the times. However, this revenue will drastically dip, once these countries are able to adopt their technology to the Cloud, marking the adaptation as complete.

Parameter	Internet of things	Cloud computing
Big Data	Acts as a source for big data	Acts as a way or a means to manage big data
Reachability	Very limited	Far spread, wide
Storage	Limited or almost none	Large, virtually never ending
Role of Internet	Acts as a point of convergence	Acts as a means for delivering services
Computing capabilities	Limited	Virtually unlimited
Components	Runs on hardware components	Runs on virtual machines which imitate hardware components



## Application areas of Cloud of Things (CoT) :

- Healthcare
- Smart home
- Smart city
- Smart energy
- Smart mobility
- Smart surveillance
- Environmental monitoring



## Issues in Cloud of Things (CoT) :

- Security and Privacy
- Unnecessary Communication of data
- Energy Efficiency
- Protocol Support
- Resource allocation
- Location of data storage