



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

COIMBATORE-35.



Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai.

DEPARTMENT OF AUTOMOBILE ENGINEERING

COURSE NAME : 19AUT205 – INTERNET OF THINGS IN AUTOMOTIVE SAFETY

II YEAR /IV SEMESTER

Unit 2- IoT Communication and Levels

Topic 3 : Levels of IoT System



CONTENT



❖ Levels of IoT system

- Level 1
- Level 2
- Level 3
- Level 4
- Level 5
- Level 6



1. What is the communication model used in Websocket API?
2. Mention the types of Communication Model API
3. Mention the communication models used for REST API

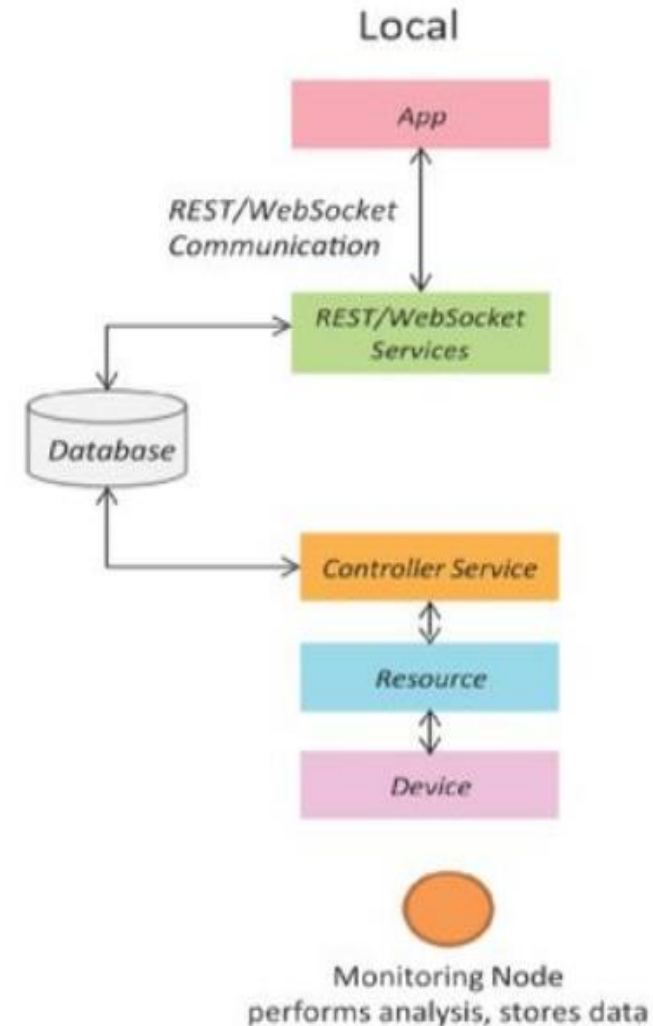




IoT LEVEL 1



- ❖ A Level 1 IoT system has a single node / device that performs sensing and actuation, stores data, performs analysis and hosts the application.
- ❖ Level 1 IoT systems are suitable for modelling low cost and low complexity solutions where the data involved is not big and the analysis requirements are not computationally intensive.

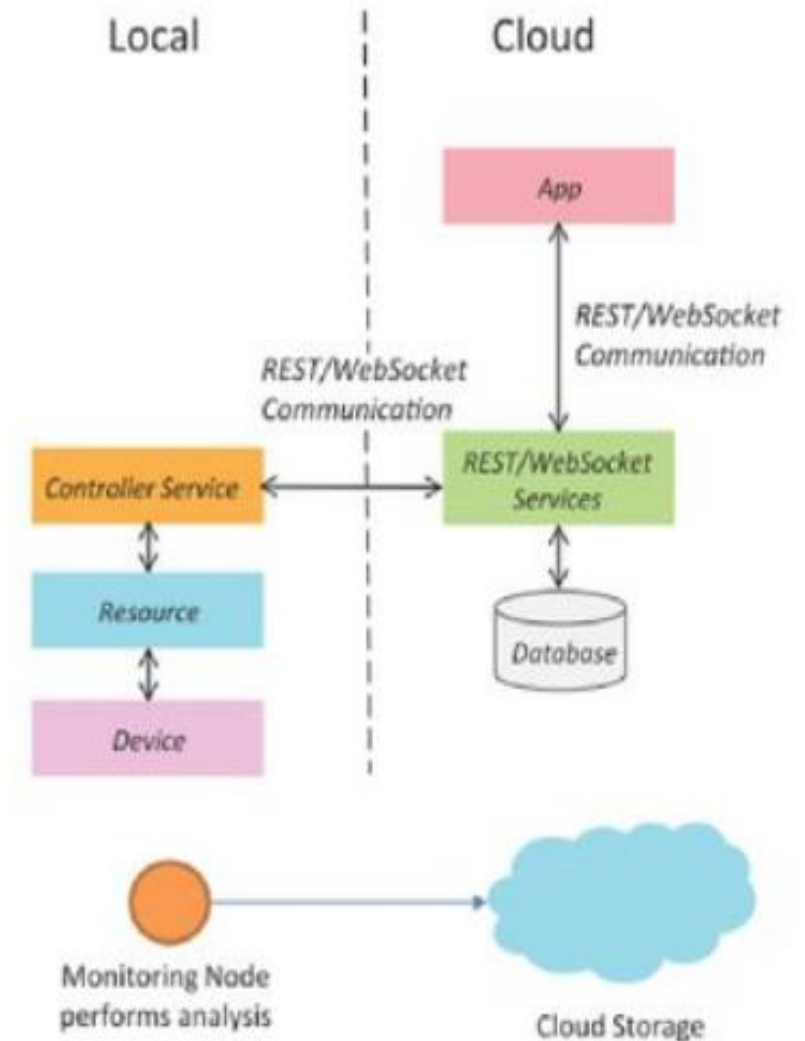




IoT LEVEL 2



- ❖ A Level 2 IoT system has a single node that performs sensing and actuation and local analysis
- ❖ Data is stored in the cloud and the application is usually cloud-based.
- ❖ Level 2 IoT systems are suitable for solutions where the data involved is big, however the primary analysis requirement is not computationally intensive and can be done locally.

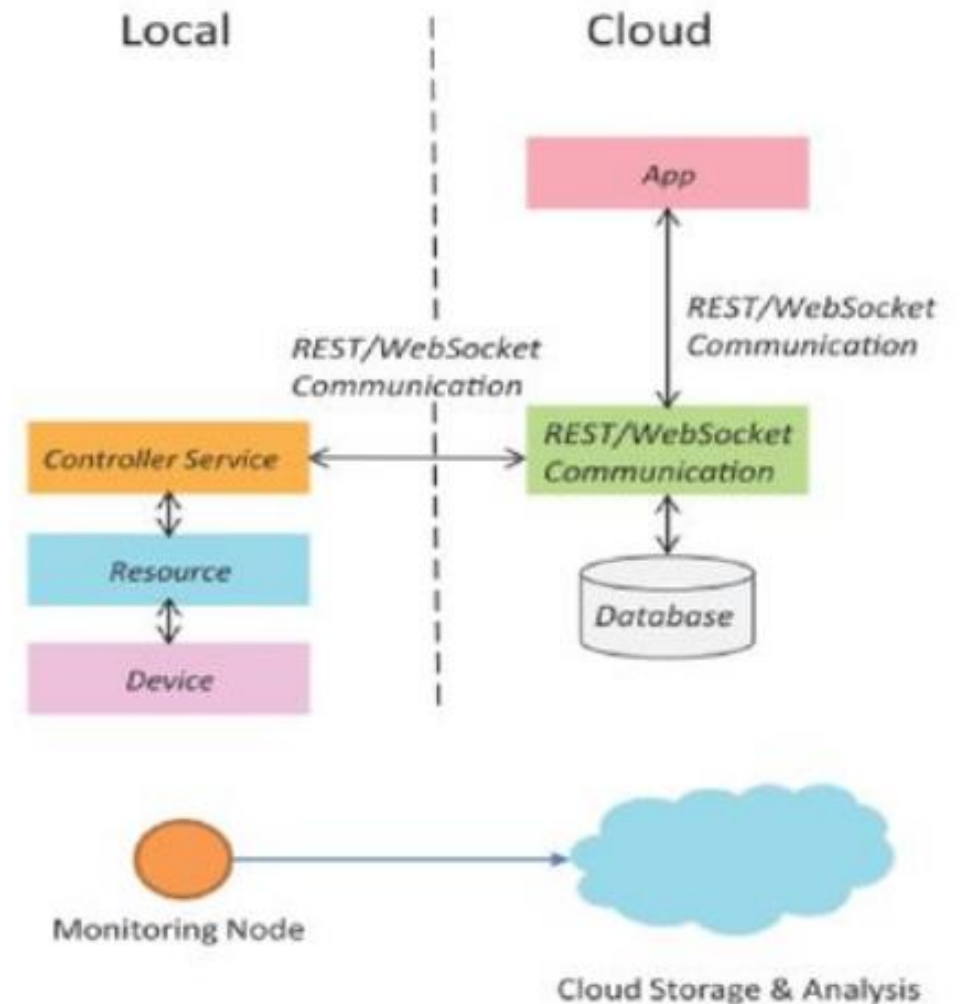




IoT LEVEL 3



- ❖ A Level 3 IoT system has a single node
- ❖ Data is stored and analysed in the cloud and the application is cloud-based.
- ❖ Level 3 IoT systems are suitable for solutions where the data involved is big and the analysis requirements are computationally intensive.





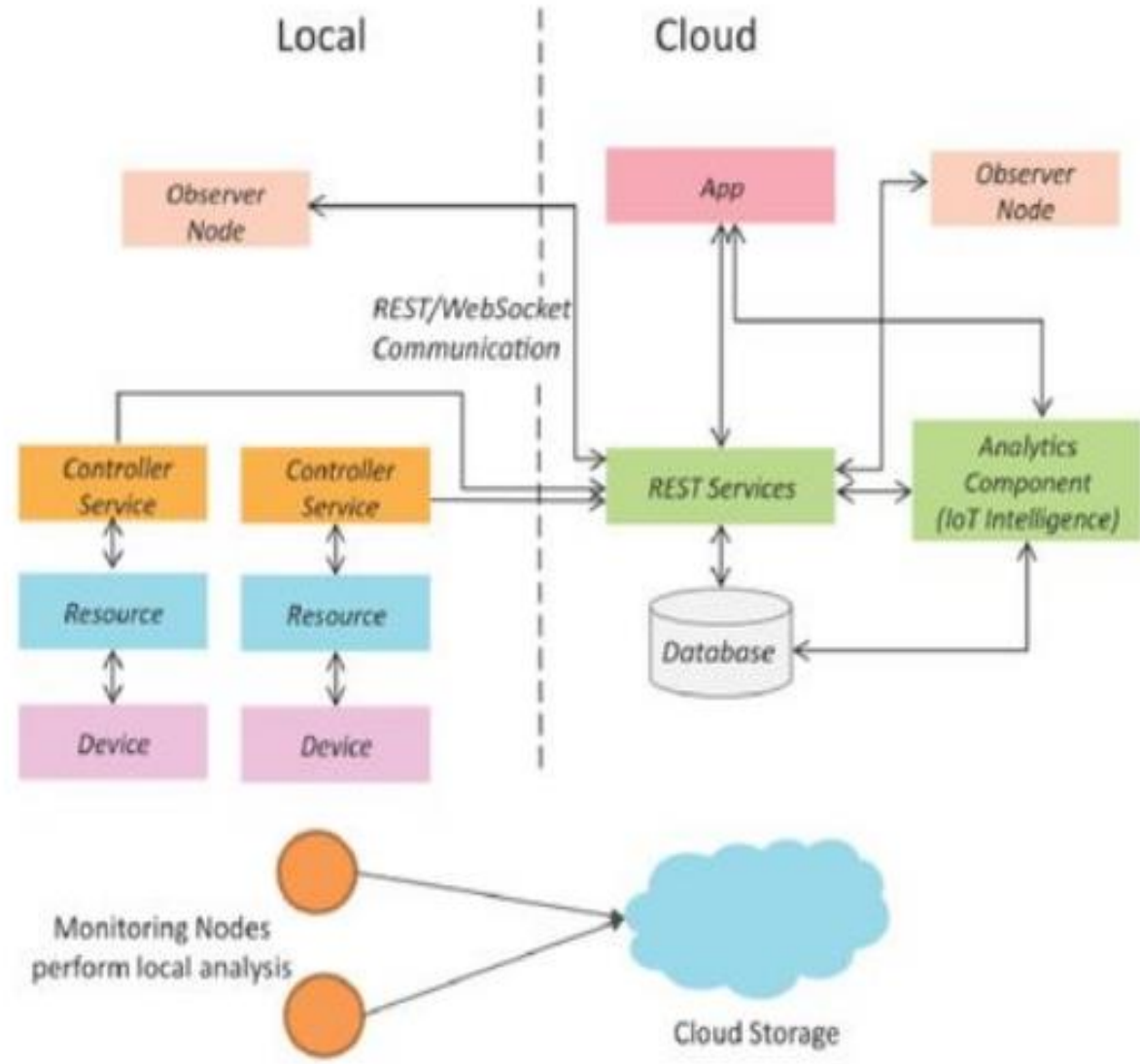
IoT LEVEL 4



- ❖ A Level 4 IoT system has multiple nodes that performs local analysis.
- ❖ Data is stored in the cloud and the application is cloud-based.
- ❖ Level 4 contains local and cloud-based observer nodes which can subscribe to and receive information collected in the cloud from IoT devices
- ❖ Level 4 IoT systems are suitable for solutions where the multiple nodes are required, the data involved is big and the analysis requirements are computationally intensive.

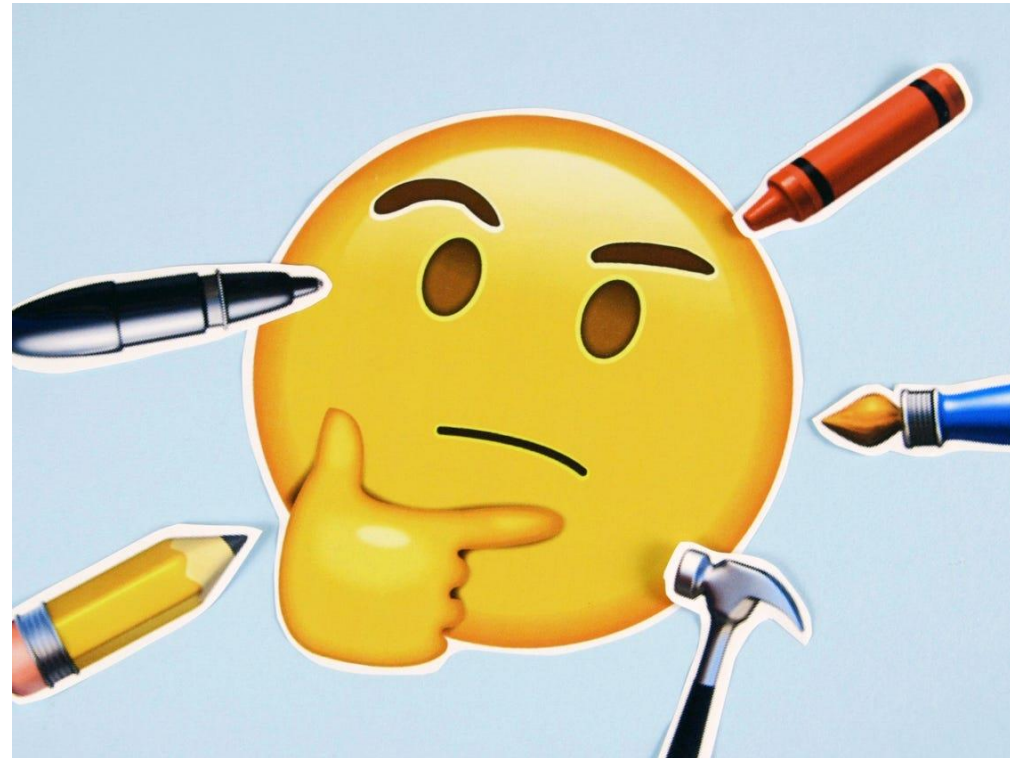


IoT LEVEL 4





Task





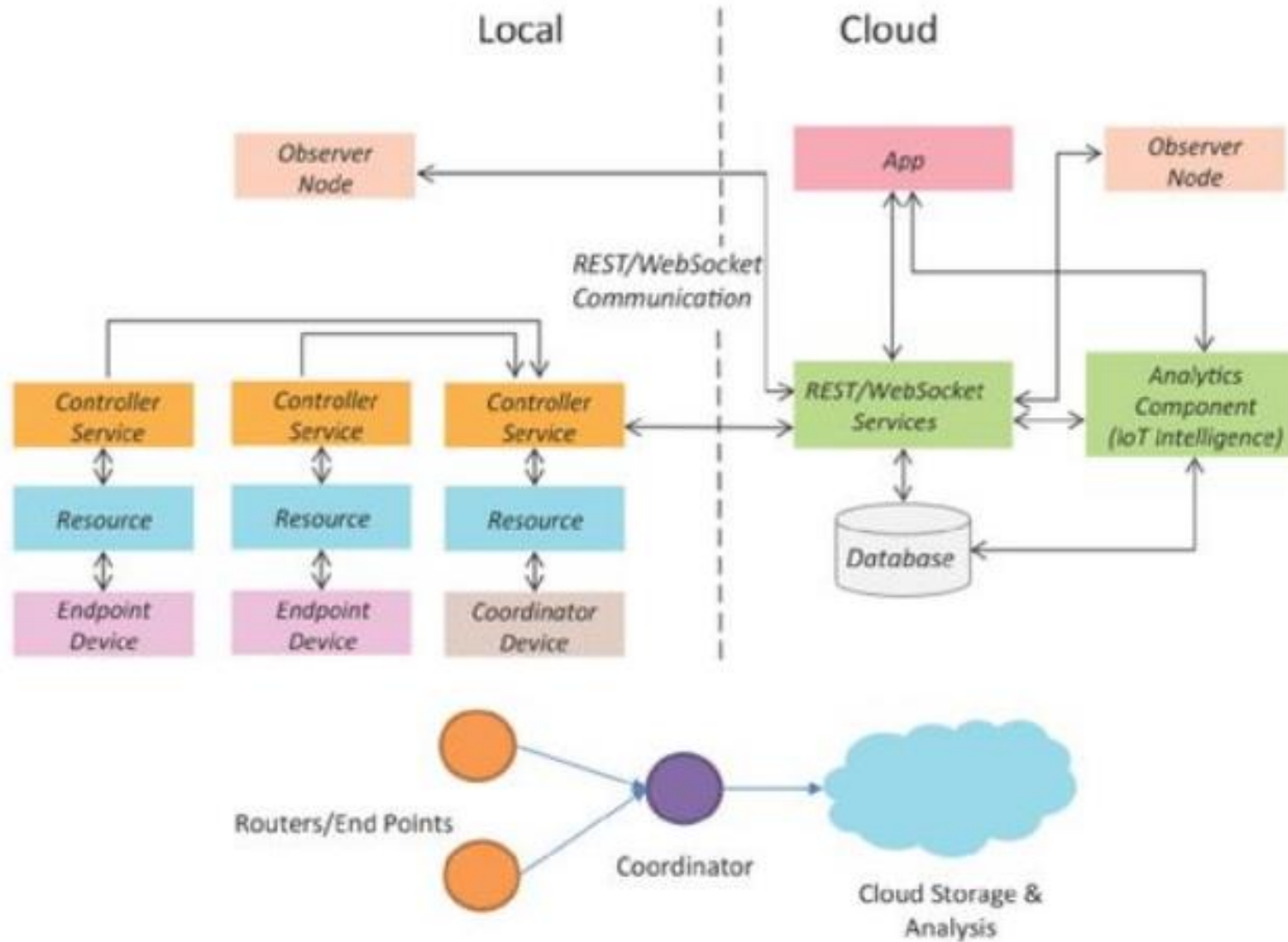
IoT LEVEL 5



- ❖ A Level 5 IoT system has multiple nodes and one coordinate node.
- ❖ The end nodes perform sensing and actuation
- ❖ The coordinate node collects data from the end nodes and sends it to the cloud
- ❖ Data is stored and analyzed in the cloud and the application is cloud-based.
- ❖ Level 5 IoT systems are suitable for solutions based on wireless sensor networks, in which the data involved is big and the analysis requirements are computationally intensive.



IoT LEVEL 5





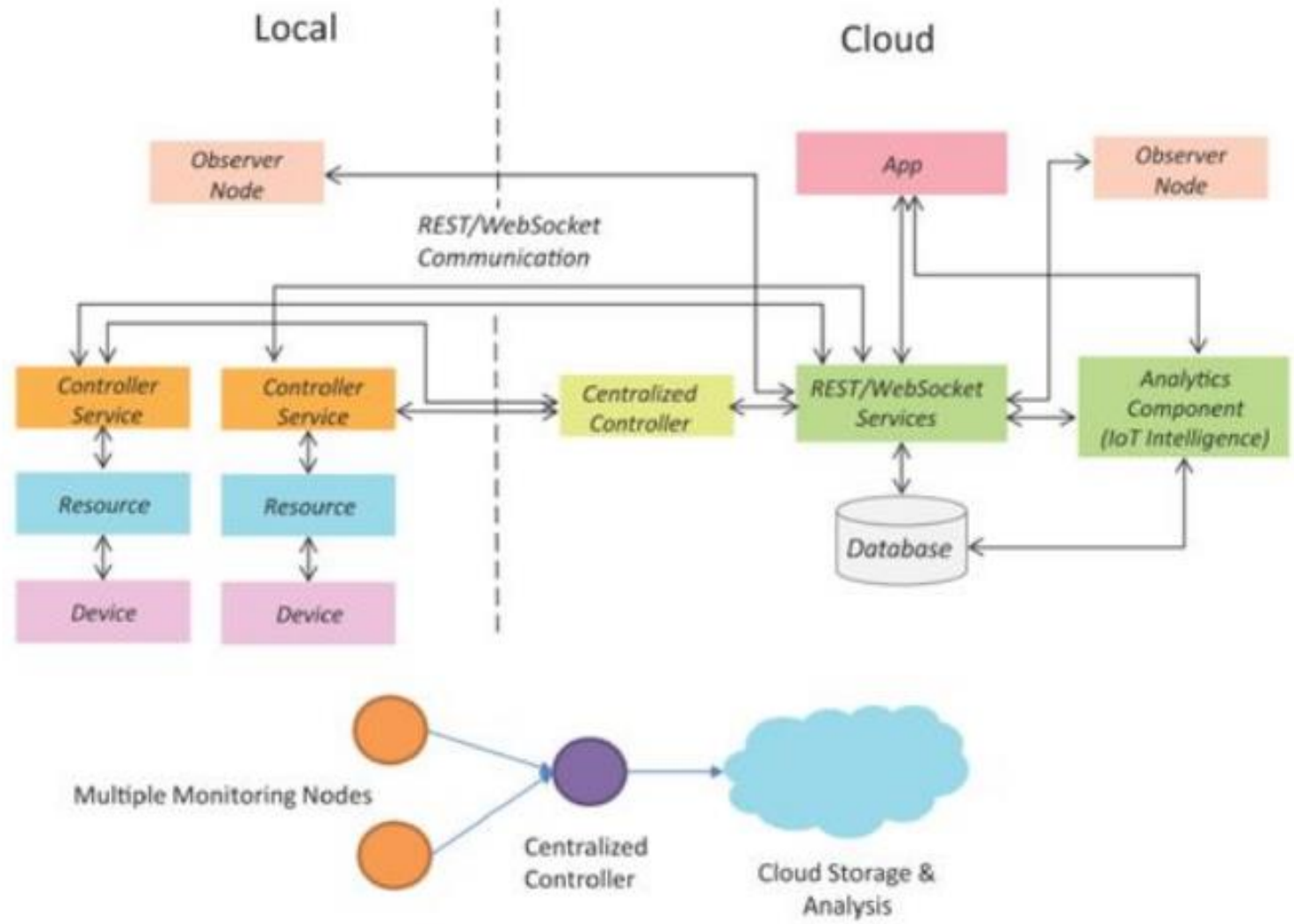
IoT LEVEL 6



- ❖ A Level 6 IoT system has multiple independent end nodes that perform sensing and actuation and send data to cloud.
- ❖ Data is stored in the cloud and the application is cloud-based.
- ❖ The analytics component analyzes the data and stores the results in cloud database.
- ❖ The results are visualized with the cloud-based application.
- ❖ The centralized controller is aware of the status of all the end nodes and sends control commands to the nodes.



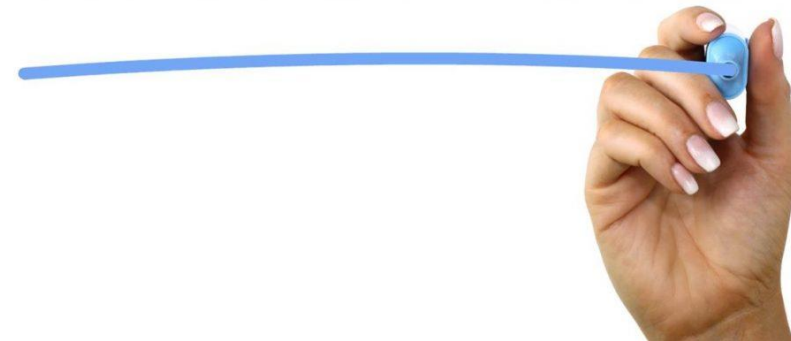
IoT LEVEL 6





1. How many levels of IoT are there?
2. Mention the features of IoT Level 4
3. In which level data is high?

ASSESSMENT





REFERENCE



- ❖ <https://slideplayer.com/slide/14272640/>
- ❖ <https://www.rfwireless-world.com/IoT/IoT-Architecture-Levels.html#:~:text=This%20page%20on%20IoT%20Architecture,4%20a and%20IoT%20Level%205.&text=IoT%20architecture%20elements%20vary%20based,are%20defined%20for%20IoT%20system.>



THANK YOU !!!