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 & AI

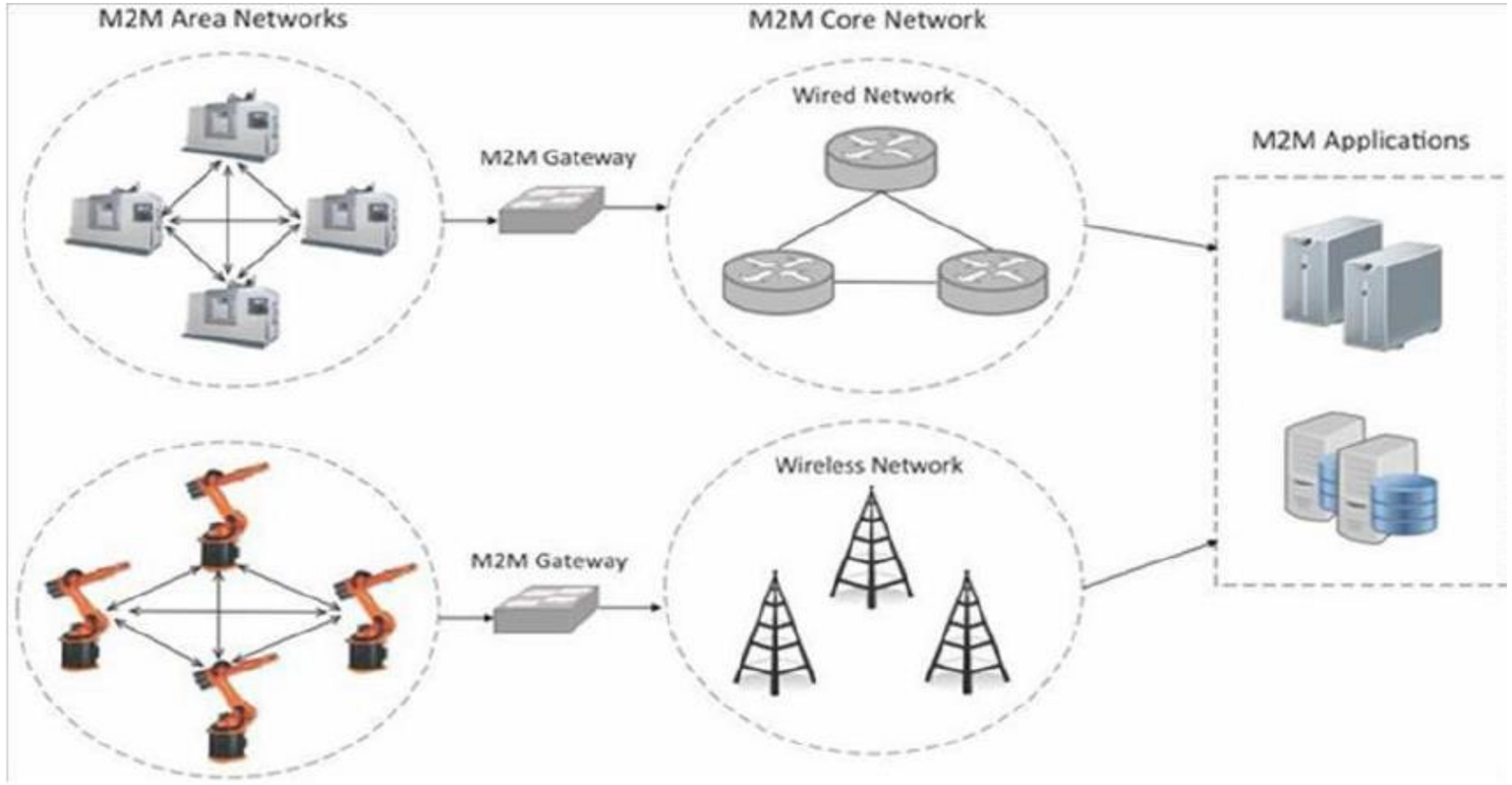
III Year / V Semester

Unit 1 – IoT INTRODUCTION AND APPLICATIONS

Topic 9- IoT and M2M

M2M

Machine-to-Machine (M2M) refers to networking of machines (or devices) for the purpose of remote monitoring and control and data exchange.



M2M

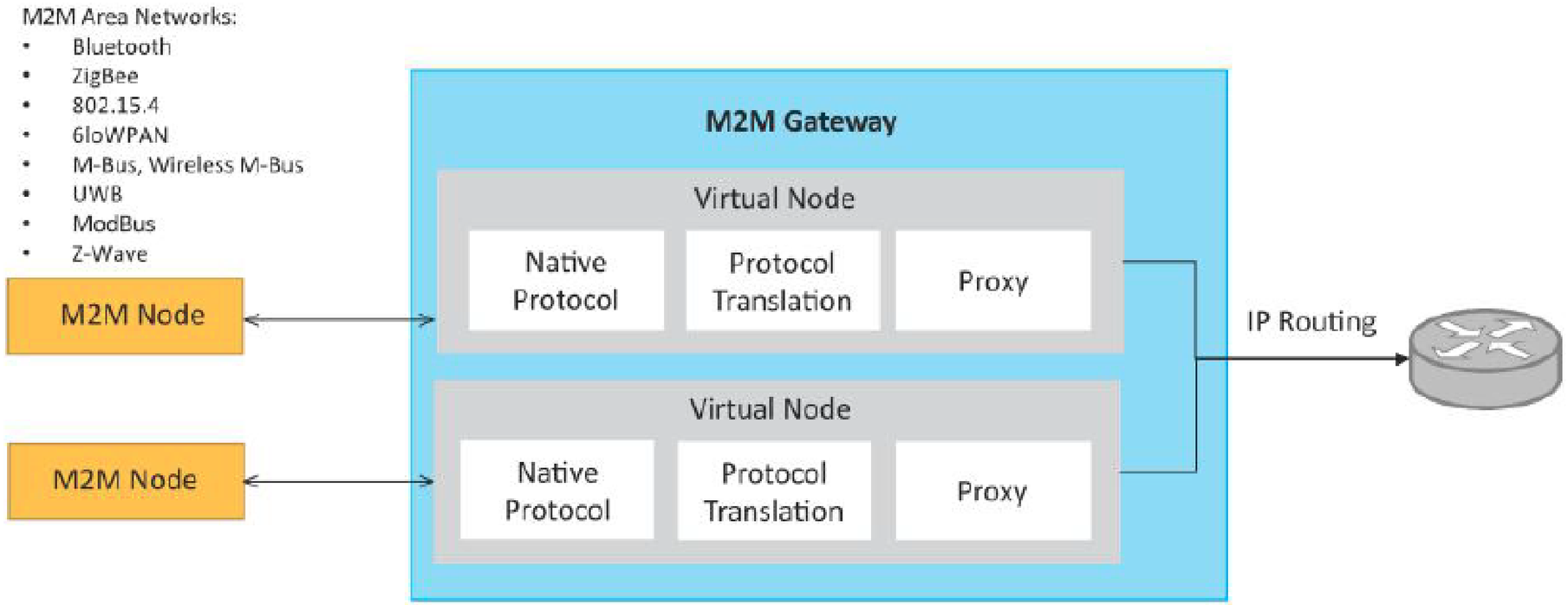
- An M2M area network comprises of machines (or M2M nodes) which have embedded hardware modules for sensing, actuation and communication.
- Various communication protocols can be used for M2M local area networks such as ZigBee, Bluetooh, ModBus, M-Bus, Wirless M-Bus, Power Line Communication (PLC), 6LoWPAN, IEEE 802.15.4, etc.
- The communication network provides connectivity to remote M2M area networks.
- The communication network can use either wired or wireless networks (IPbased).
- While the M2M area networks use either proprietary or non-IP based communication protocols, the communication network uses IP-based networks.

M2M

M2M Gateway

- Since non-IP based protocols are used within M2M area networks, the M2M nodes within one network cannot communicate with nodes in an external network.

- To enable the communication between remote M2M area networks, M2M gateways are used.



Difference between IoT and M2M

Differences

- Communication Protocol
- Machines in M2M vs Things in IoT
- Hardware vs Software Emphasis
- Data Collection & Analysis
- Applications

Communication Protocols

- M2M and IoT can differ in how the communication between the machines or devices happens.
- M2M uses either proprietary or non-IP based communication protocols for communication within the M2M area networks.

Machines in M2M vs Things in IoT

- The "Things" in IoT refers to physical objects that have unique identifiers and can sense and communicate with their external environment (and user applications) or their internal physical states.
- M2M systems, in contrast to IoT, typically have homogeneous machine types within an M2M area network.

Difference between IoT and M2M

Hardware vs Software Emphasis

- While the emphasis of M2M is more on hardware with embedded modules, the emphasis of IoT is more on software.

Data Collection & Analysis

- M2M data is collected in point solutions and often in on-premises storage infrastructure.

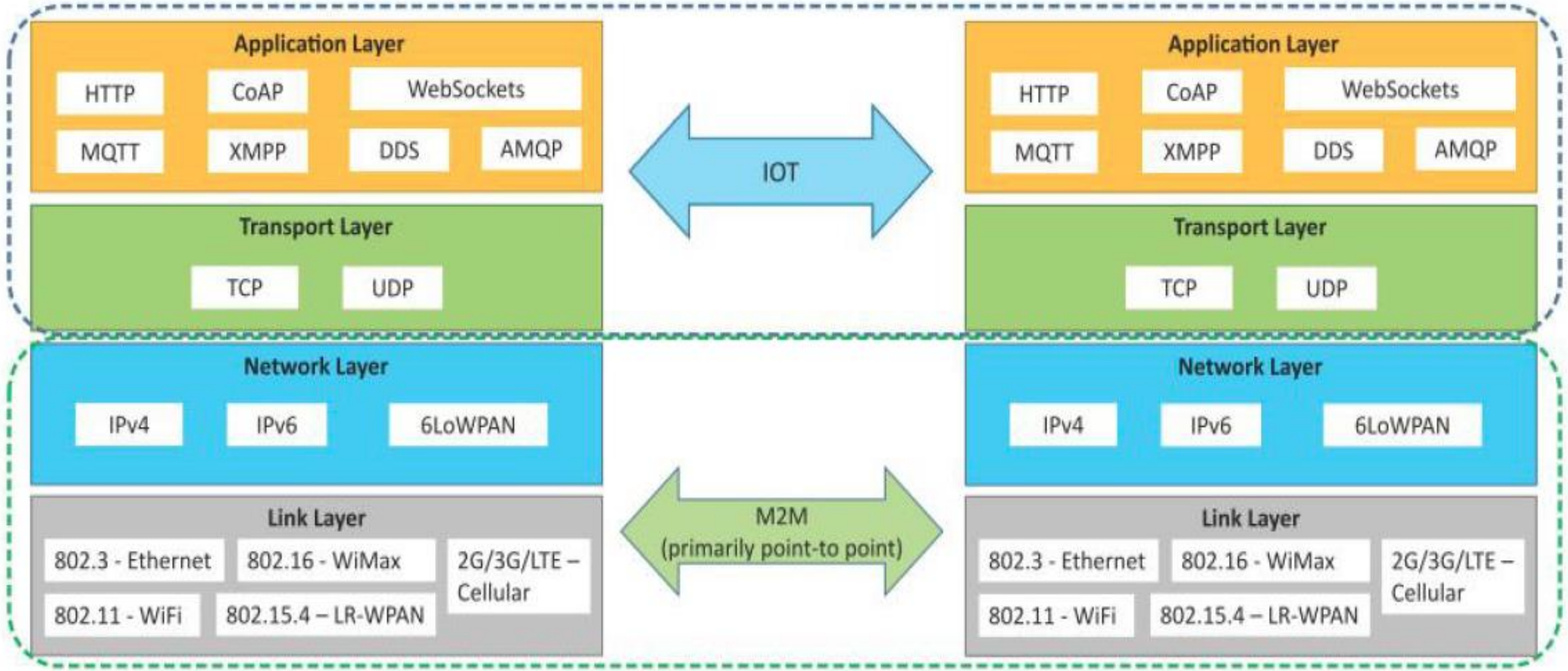
- In contrast to M2M, the data in IoT is collected in the cloud (can be public, private or hybrid cloud).

Applications

- M2M data is collected in point solutions and can be accessed by on-premises applications such as diagnosis applications, service management applications, and onpremisis enterprise applications.

- IoT data is collected in the cloud and can be accessed by cloud applications such as analytics applications, enterprise applications, remote diagnosis and management applications, etc.

Communication in IoT and M2M



THANK YOU