ITU KALEIDOSCOPE
ATLANTA 2019

ACCESS TECHNOLOGIES FOR MEDICAL IOT SYSTEMS

Junaid Ahmed Siddiquee, PhD
juasid@gmail.com

4-6 December
Atlanta, Georgia, USA

Objectives

This study tries to answer the following broad questions:

- What are the requirements on the access network to implement an effective healthcare IoT system?
- Identify the challenges that are encountered while implementing a solution to meet the needs of healthcare IoT.
- Propose a model for the IoT architecture with a focus on the communication layer.

Access Requirements - Current

- Limited mobility
- Low to mid-bandwidth
- Tight integration with the device/equipment
- Integration with local databases
- Basic security

Access Requirements- Upcoming

- Low latency
- Enhanced mobility
- Better quality & reliability
- Interoperability and open standards
- Roaming support

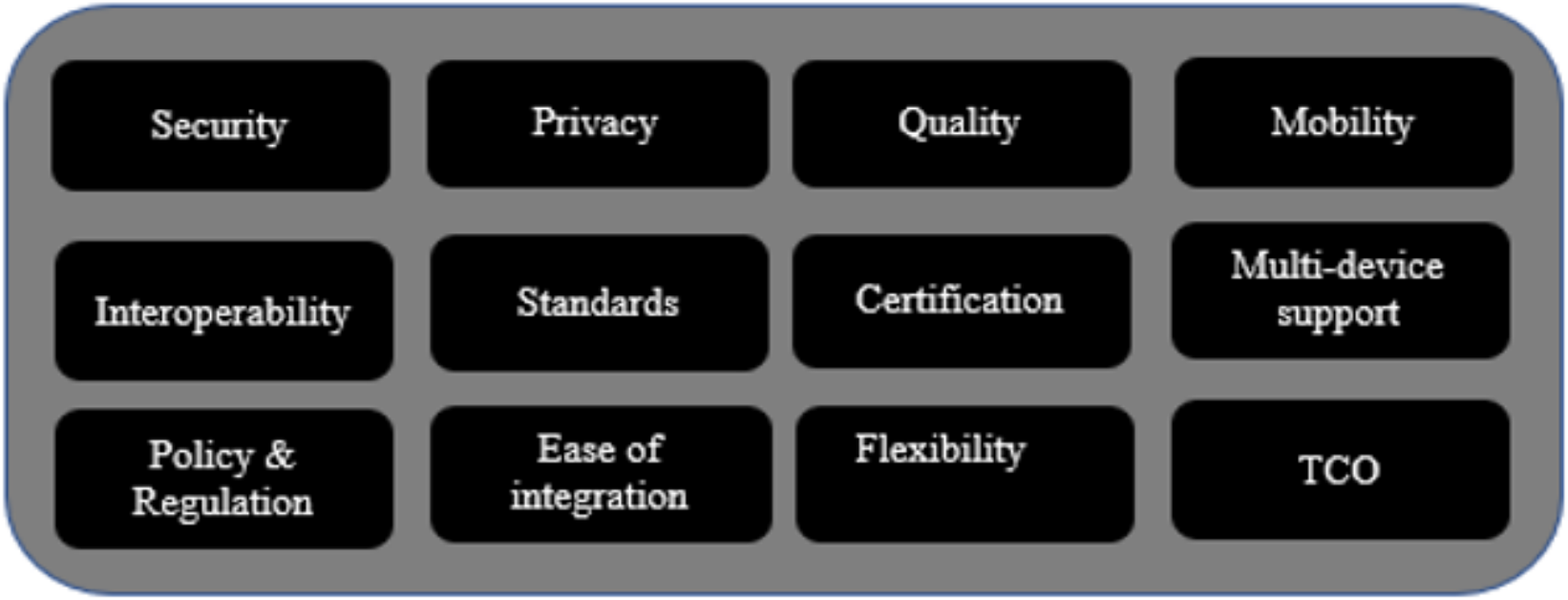
- Bandwidth – low to high
- Integration with large databases and applications
- Integration with other technologies, ML and AI
- Enhanced security and privacy
- Support for different end-user IoT types

Challenges

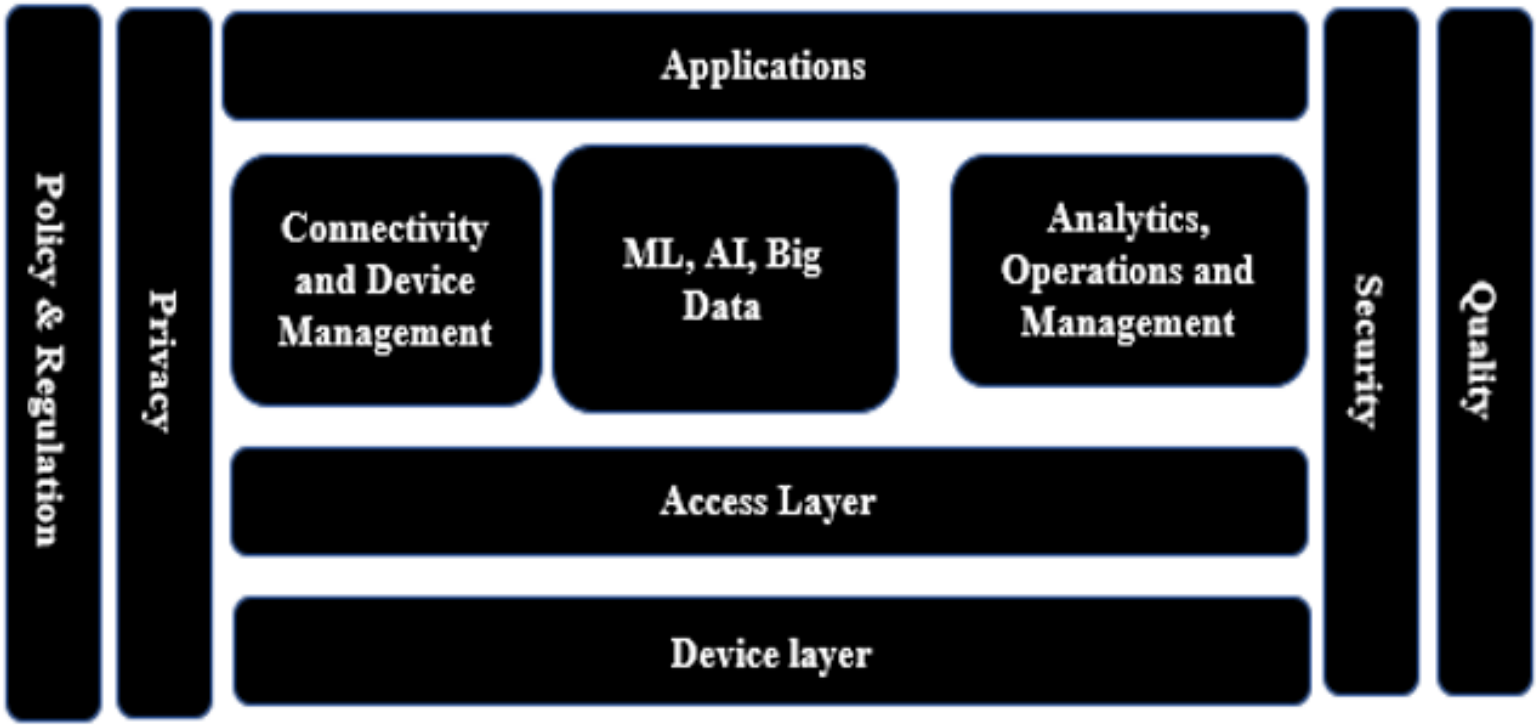
- Interoperability
- Investment
- Security
- Privacy
- Power requirements, availability

- Quality of end devices and overall cost of ownership:
- Evolving regulations
- e2e solution life cycle
- Standardization

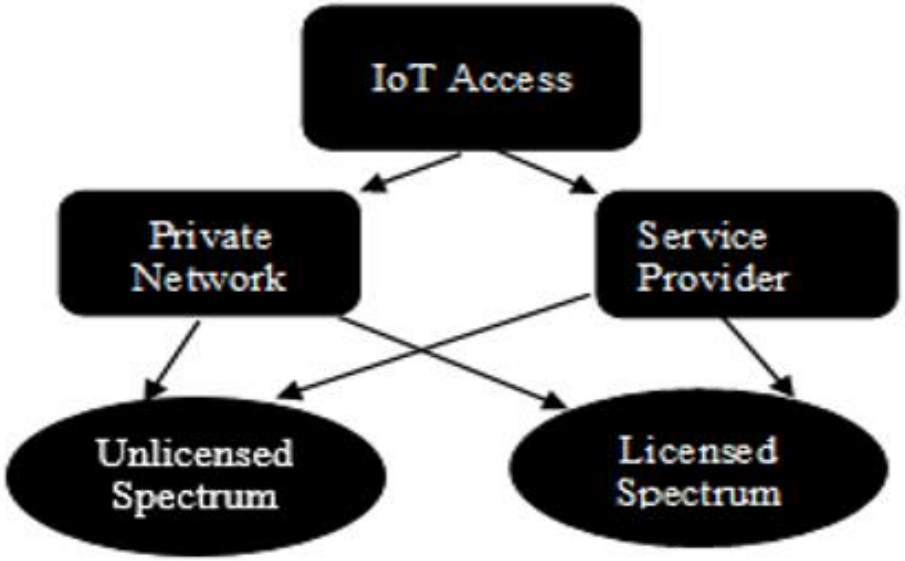
IoT Deployment –Impacting Factors



IoT Deployment – Model



Deployment – Scenarios



Way Forward

- Build reference frameworks?
- Regulatory guidance
- Certification
- Demonstrate POC in real conditions

ITU KALEIDOSCOPE ATLANTA 2019

Thank you