

Internet of Things: Some Regulatory Aspects

Dr. Ramy Ahmed Fathy, PhDNTRA

What is the Internet of Things (IoT)? ITU's Definition

A global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies"

Parking | Transportation | Home Automation | Health Care | ...

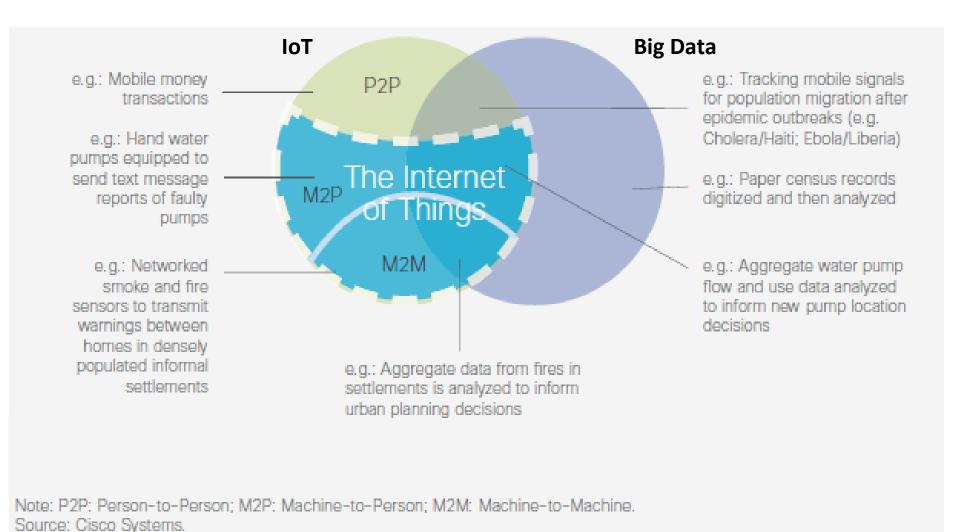
Sensors | Meters | Lamps Turbines | Engines | Phones | ...

Conventional TCP/IP | Evolving NGN | ... How about AI?

Interoperability is key .. The question is at which layer?



The IoT, M2M, and Big Data.. are all inter-related technologies.





IoT application domains are massive.. & not to mention smart cities!

Smart Home

Smart Appliances, Security & Access Control, Lighting, Automation

Agriculture

Precision Agriculture, Smart Irrigation, Livestock Monitoring

Retail

RFID, POS, Smart Mirrors, Kiosks, Personal Shopping Assistance, Inventory Management

Factories

Workers Safety,
Predictive
Maintenance,
Process Control,
Monitoring

Smart City

Traffic Management, Waste Management, Parking, Security, Safety

Smart Grid

AMI/Smart Meters, Automation, Actuators, Fault Detection

Healthcare

Mobile Health, Wearables, Asset Tracking, Drug Dispensing, Bio-Monitoring

Oil & Gas

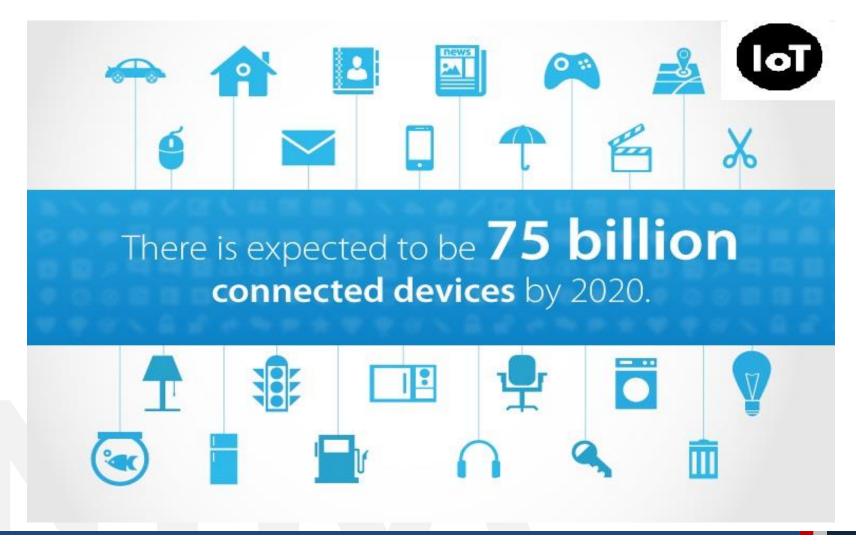
Safety & Environment, Smart Pipes, Wellhead Telemetry

Smart Building

Security, Energy Conservation, HVAC, Lighting



For 75 billion connected device, the threats and attack vectors are huge.





Two aspects of regulations might be needed..

Privacy and data protection

M2M and IoT applications can record a variety of personal data.

End user is often unaware of the amount and details of his data that is being gathered and/or shared when they use a service, a system, a device, or an application.

Enforce regulations on:

- How information should be stored, processed, and distributed
- Measures to delete customers data (the right to be forgotten)
- Easily identifiable contact details if customers had privacy concerns

• ...

Network security and resilience

New measures to detect vulnerabilities and potential threats.

Threat Impact Vectors are needed to analyze and detect the potential sources of breaches, the potential targets, and the potential operating environment of these breaches.

why?

To develop sound security measures.



Thank you

