Cisco Networking Academy

IoE & Healthcare

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Hostess: Kara Sullivan

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Welcome to the 6th session of the *Internet of Everything* webinar series!

- 1st Session: IoE & Cloud Mobility
- 2nd Session: IoE & Smart Cities
- 3rd Session: IoE & Education
- 4th Session: IoE & Smart Connected Industries
- 5th Session: IoE & Technology Innovation
- **6th Session: IoE & Healthcare**

All on-demand sessions and presentations can be found here.

Before We Get Started...

- Use the Q and A panel to ask questions.
- Use the Chat panel to communicate with attendees and panelists.
- A link to a recording of the session will be sent to all registered attendees.
- Please take the feedback survey at the end of the webinar.

Digitalization

Going paperless? Just to save trees?

IoT & IoE

IoT

Physical devices connected to Internet.

IoE

IoT + Big Data + Brain ?

IoT devices act autonomously based on real-time data

Real-world Example of IoE

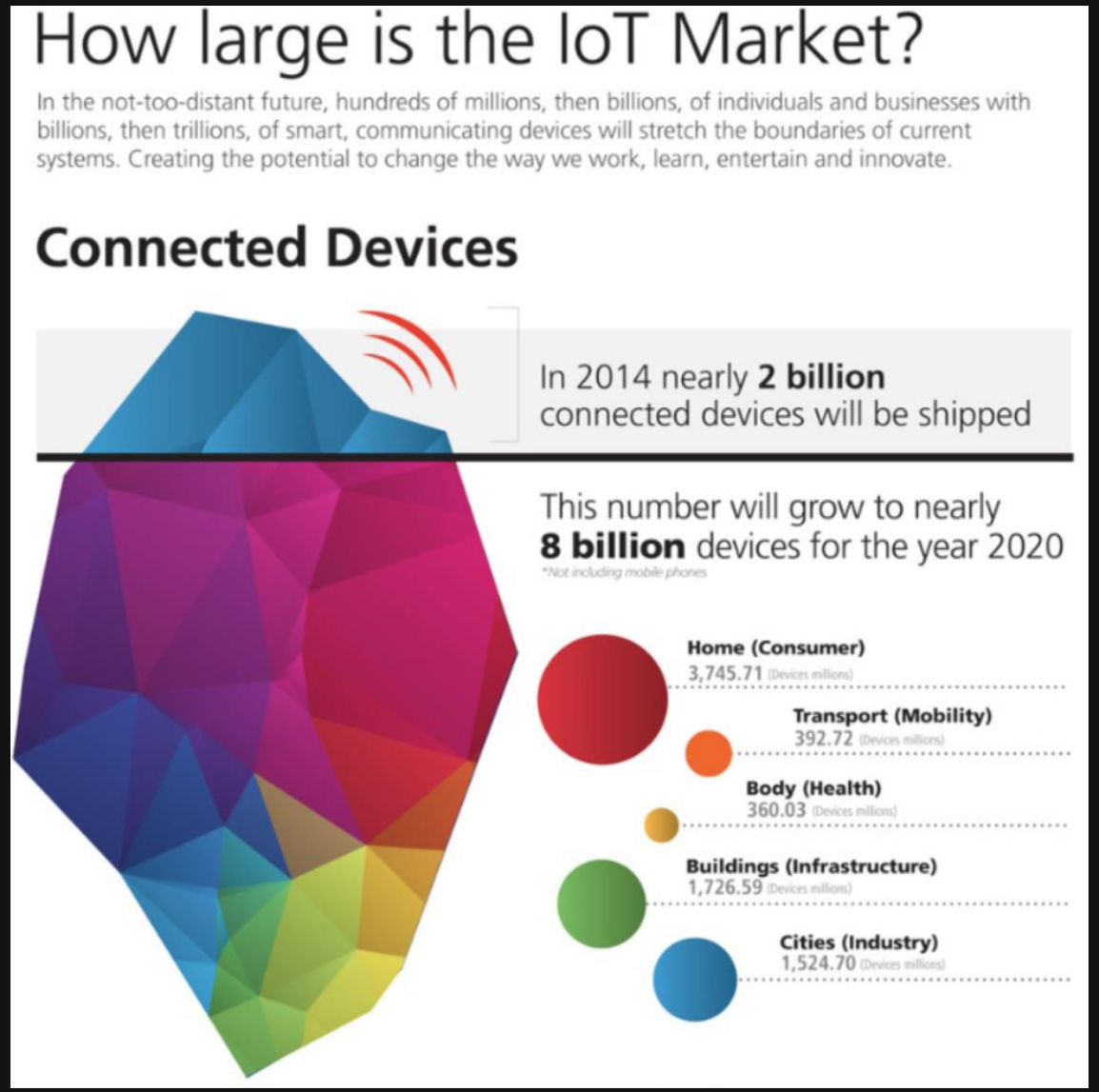
The IoE is the network of all networks, bringing together people, processes, data, and physical devices to transform the wealth of structured and unstructured data into real-time insights, richer experiences, autonomous behavior, and real, tangible business value.

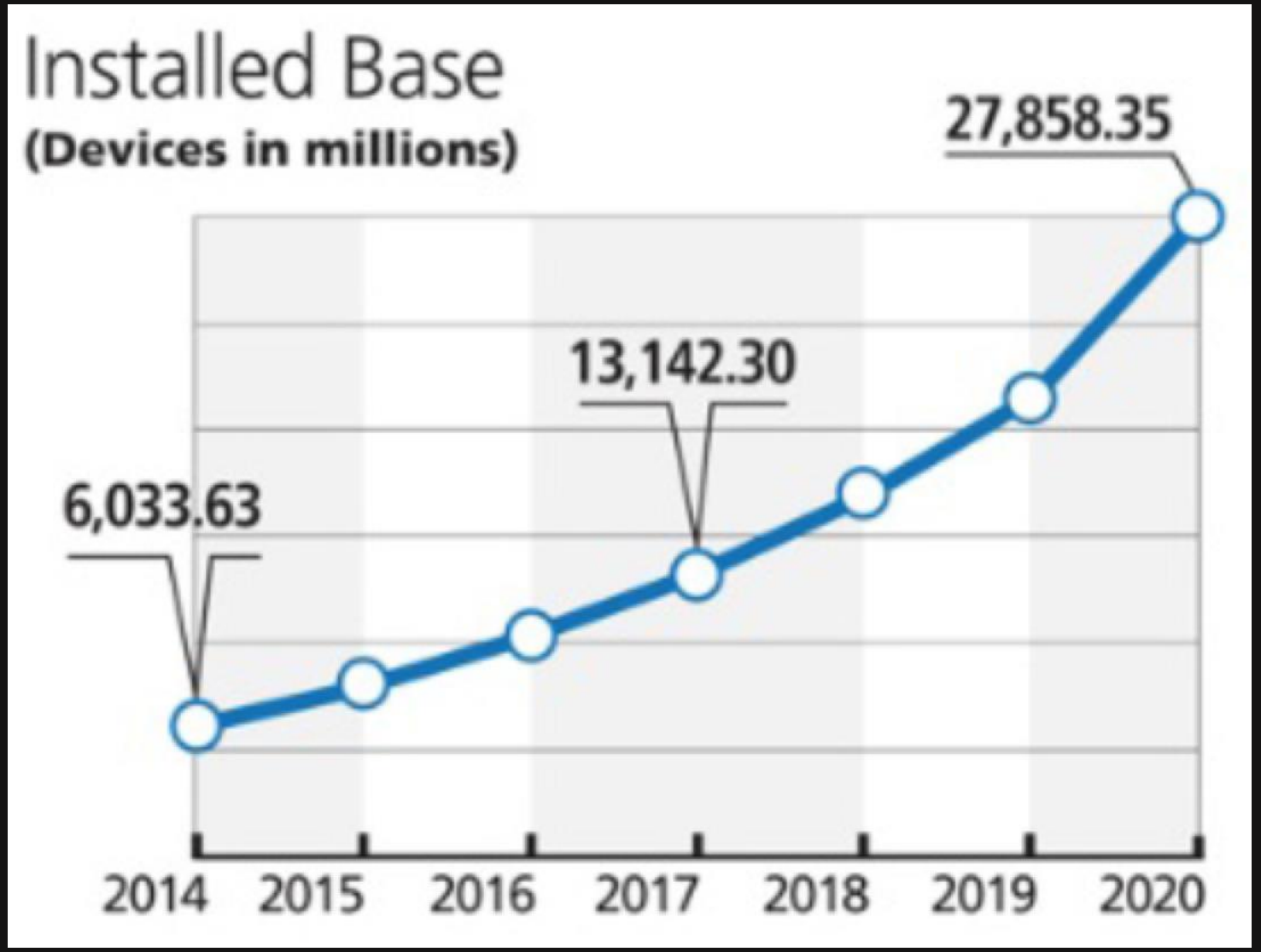
MEDICAL:
A doctor receives notification that her patient's blood glucose levels are high

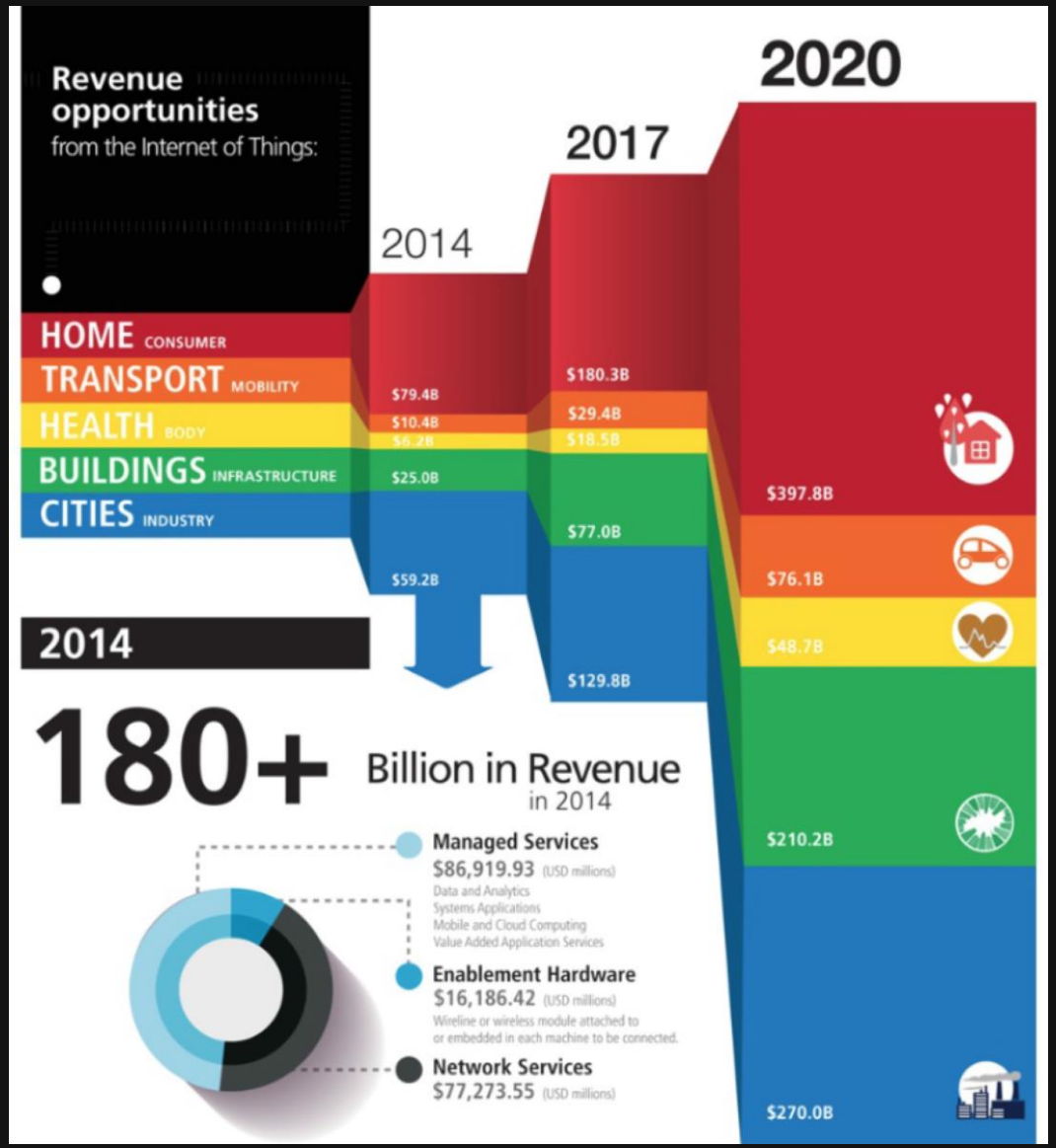
TRANSPORTATION:
A driverless car reroutes sensing an accident up ahead

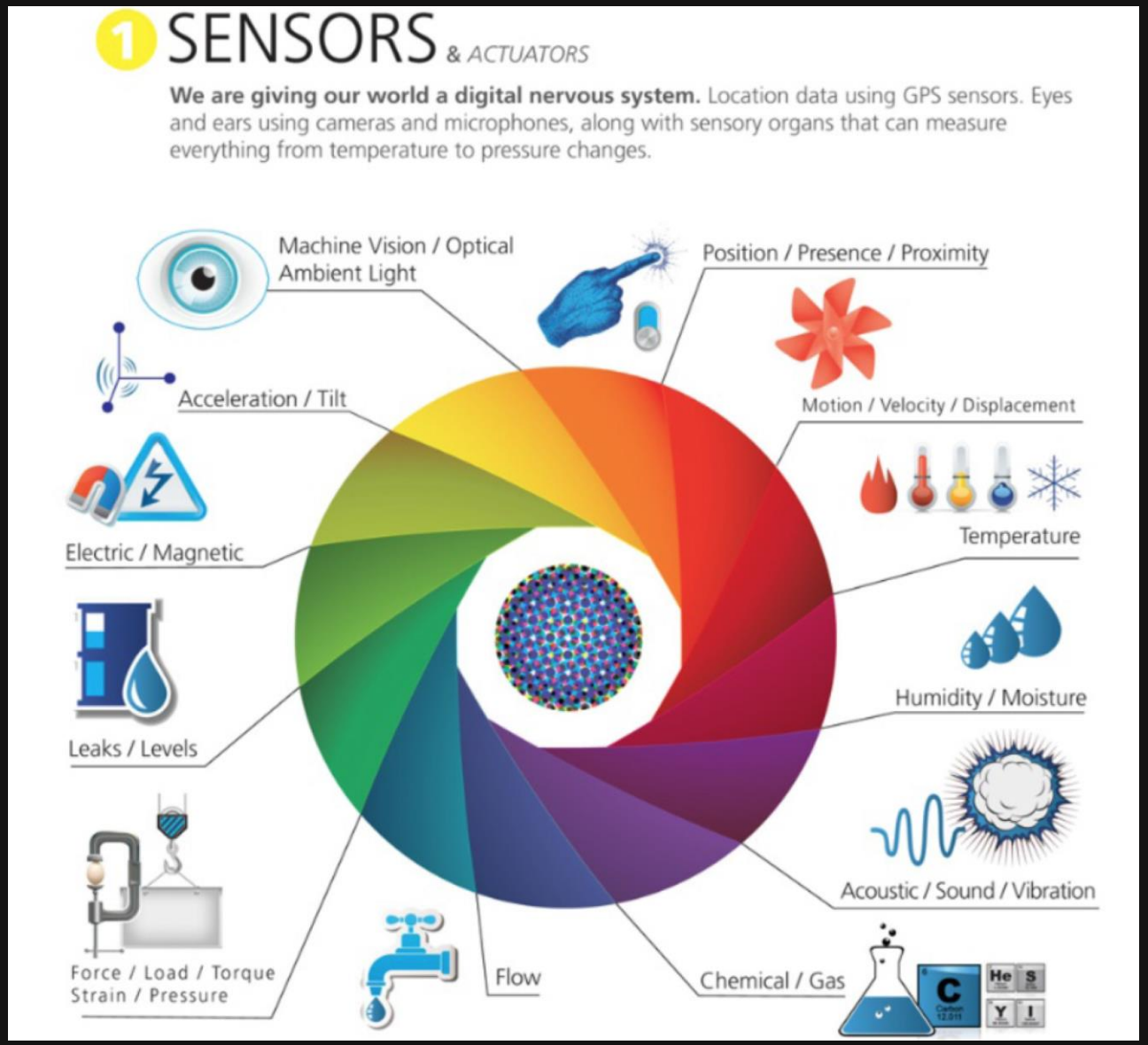
HOME:
A connected home keeps coffee from burning by powering down when you leave

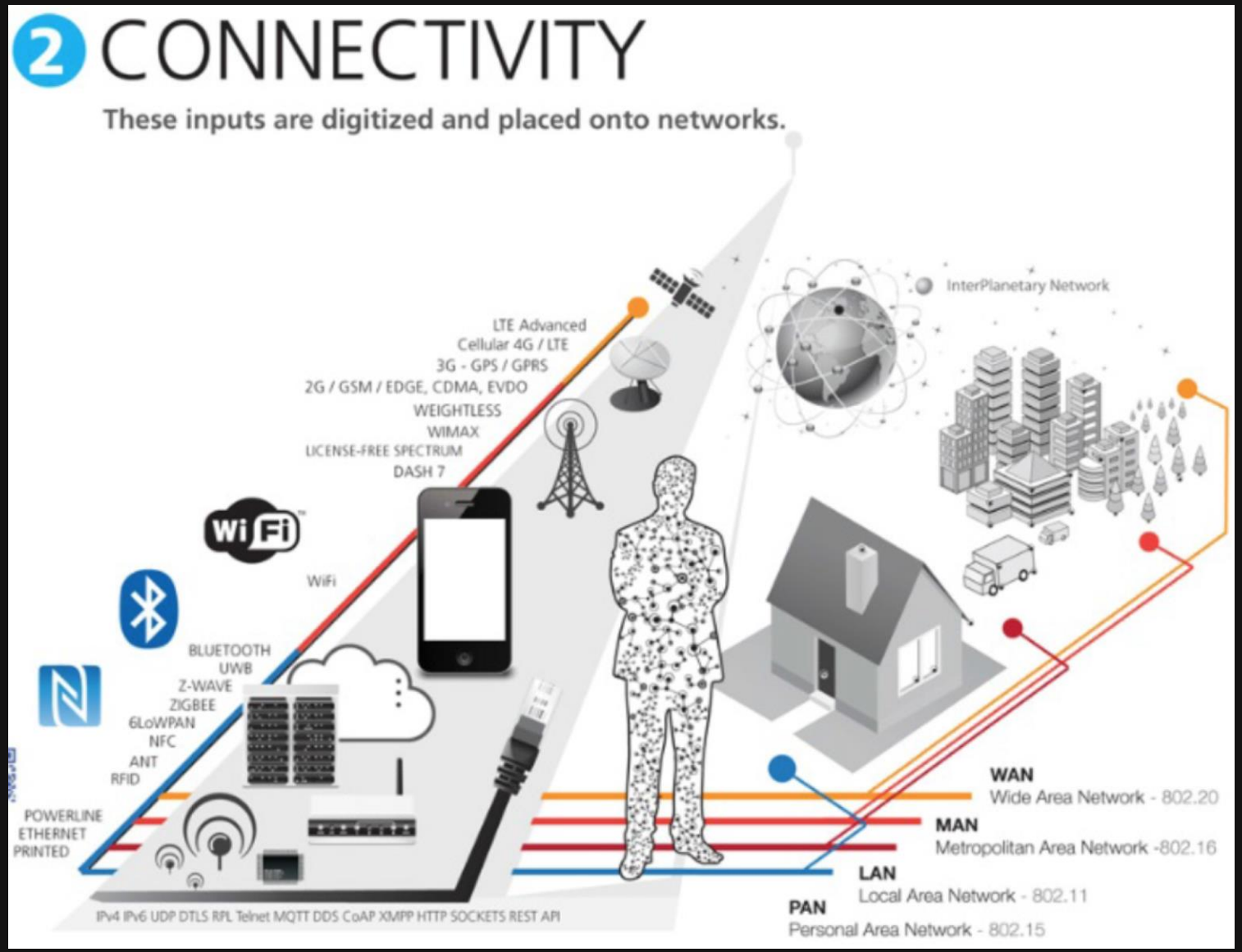
PUBLIC SECTOR:
A connected city adjusts to parking needs, traffic, and utility usage

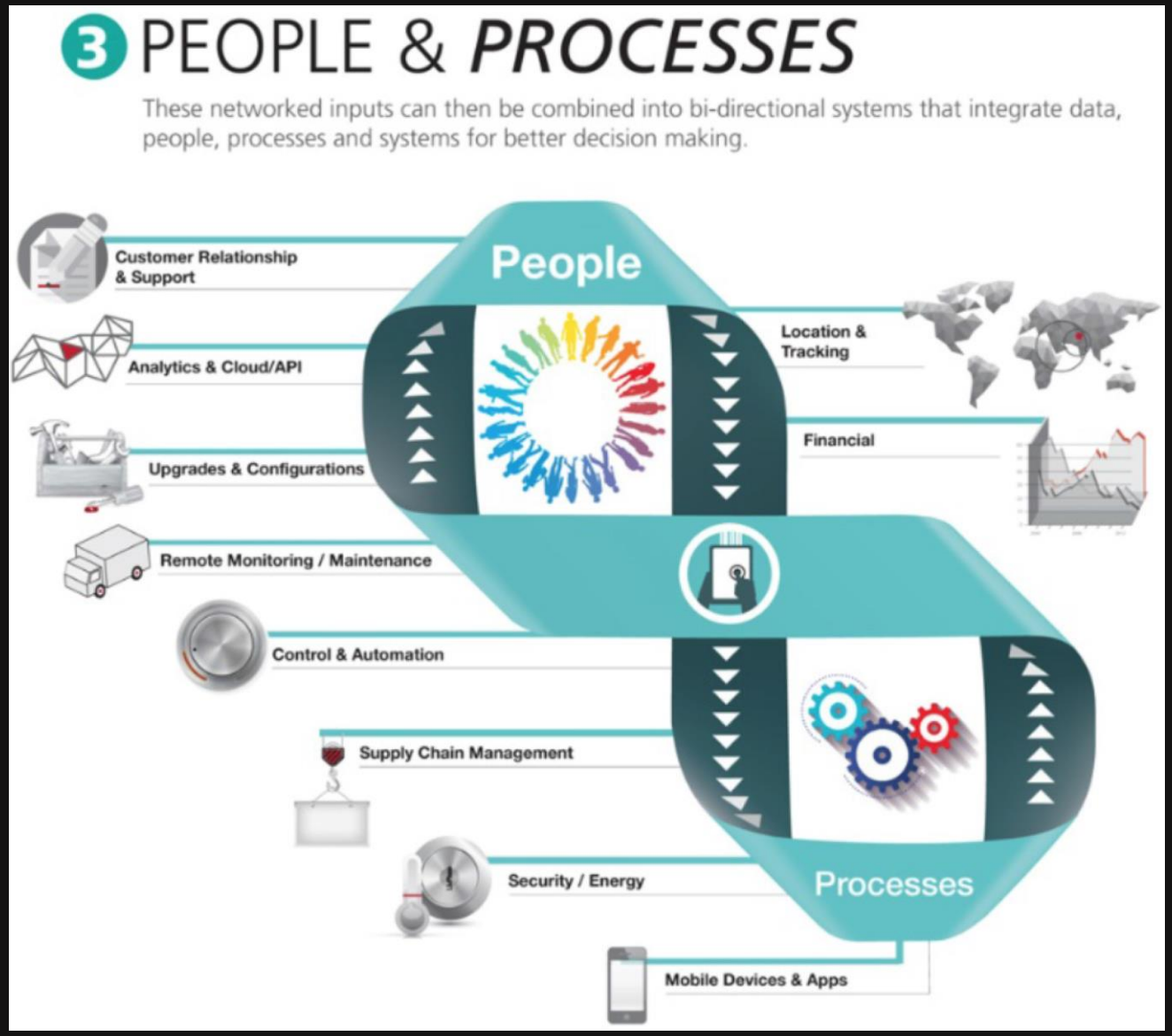






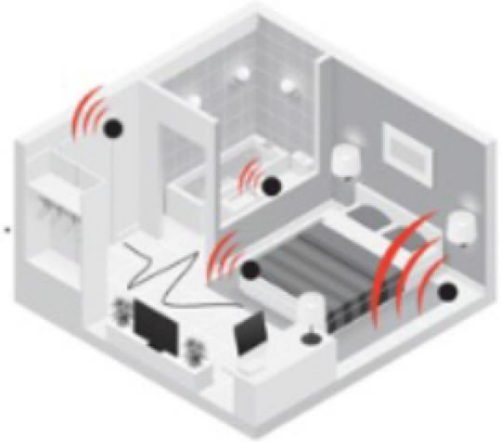




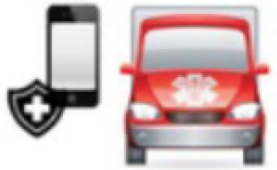


HEALTHCARE + SMART HOME

Aging uncle Earl is still living isolated at his home and you are concerned about his safety.



Wireless sensors throughout his house help measure healthy activity levels, sleeping patterns and medication schedules.



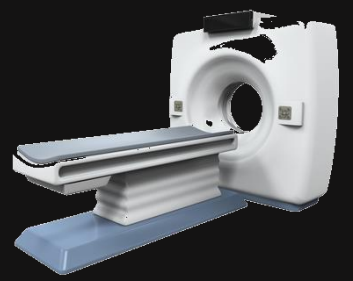
Alerts are automatically sent to health care services and authorized family members if any abnormal activity is detected.

40 million adults age 65 and over will be living alone in the U.S, Canada and Europe.

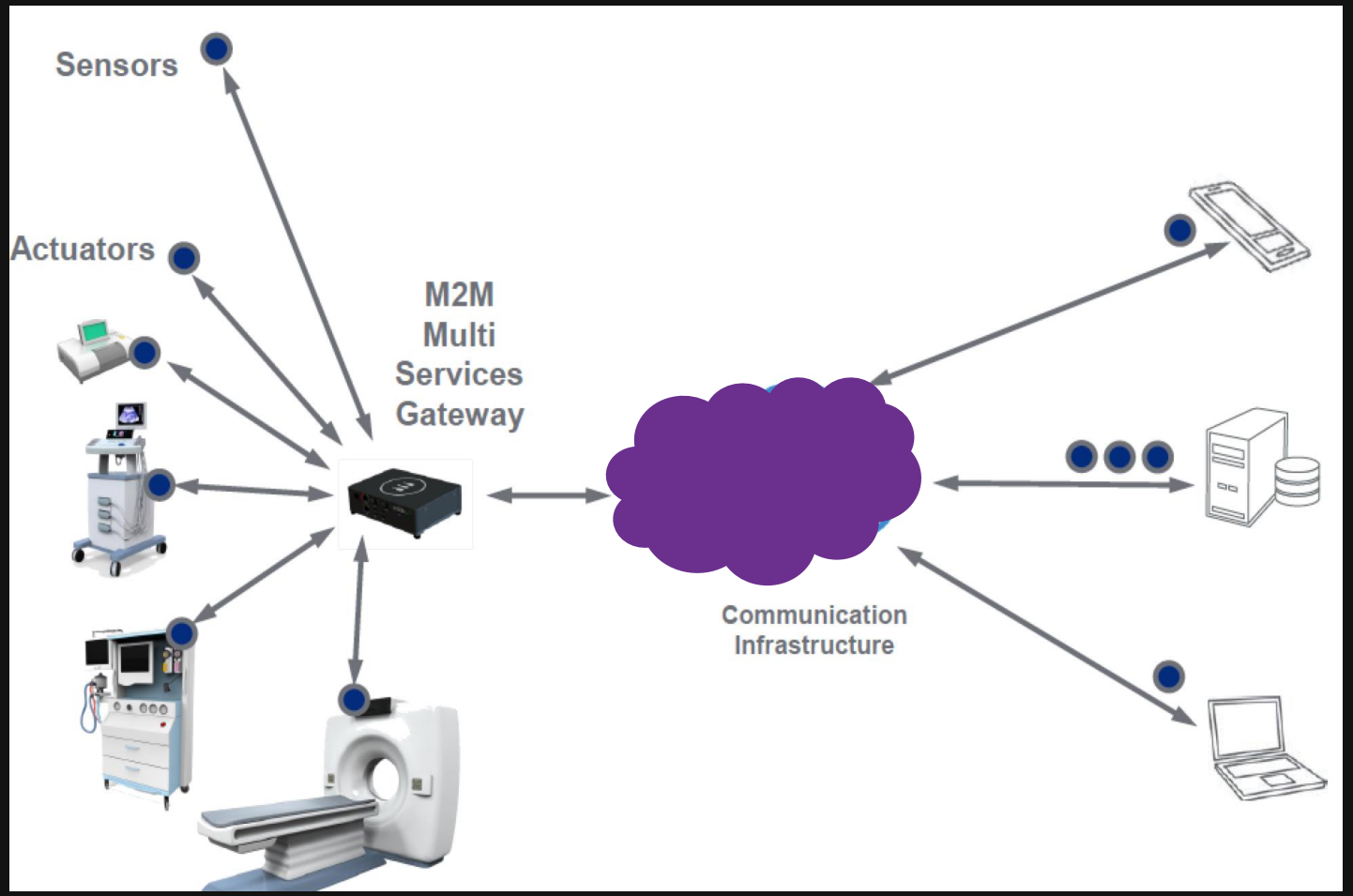
- U.S. Department of Health and Human Services: Administration for Community Living (ACL)

Challenges and Perceived Barriers

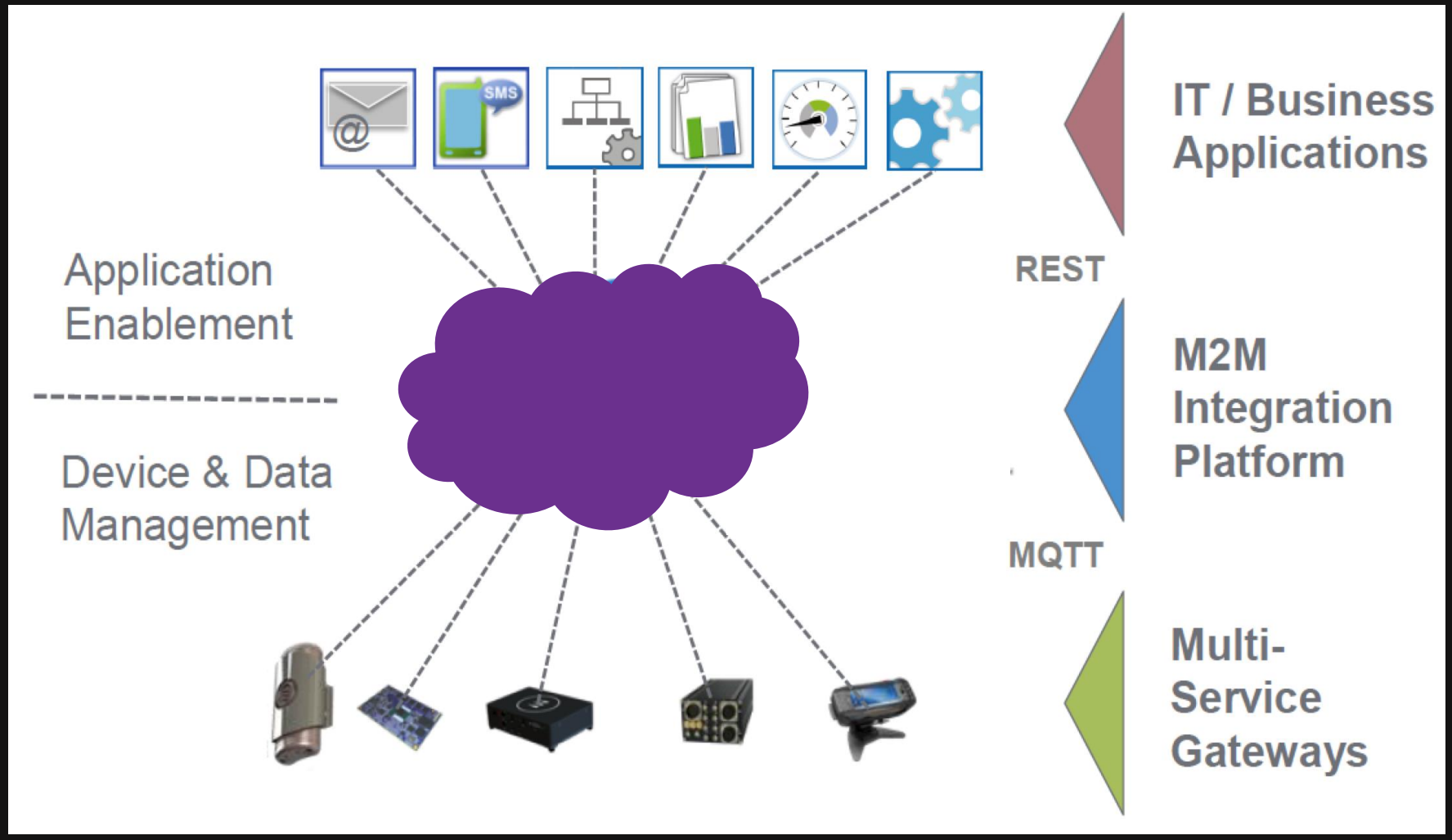
- Different medical devices / protocols / interfaces
- Local intelligence required
- Secure medical device access and configuration
- Aggregation (communication cost reduction)
- Local (remote) processing
- International deployment / customer base
- Carrier certifications for cellular solutions
- Support
- Security
- Integrating into secure hospital networks
- End-to-end
- Infrastructure required
- IT/OT challenges



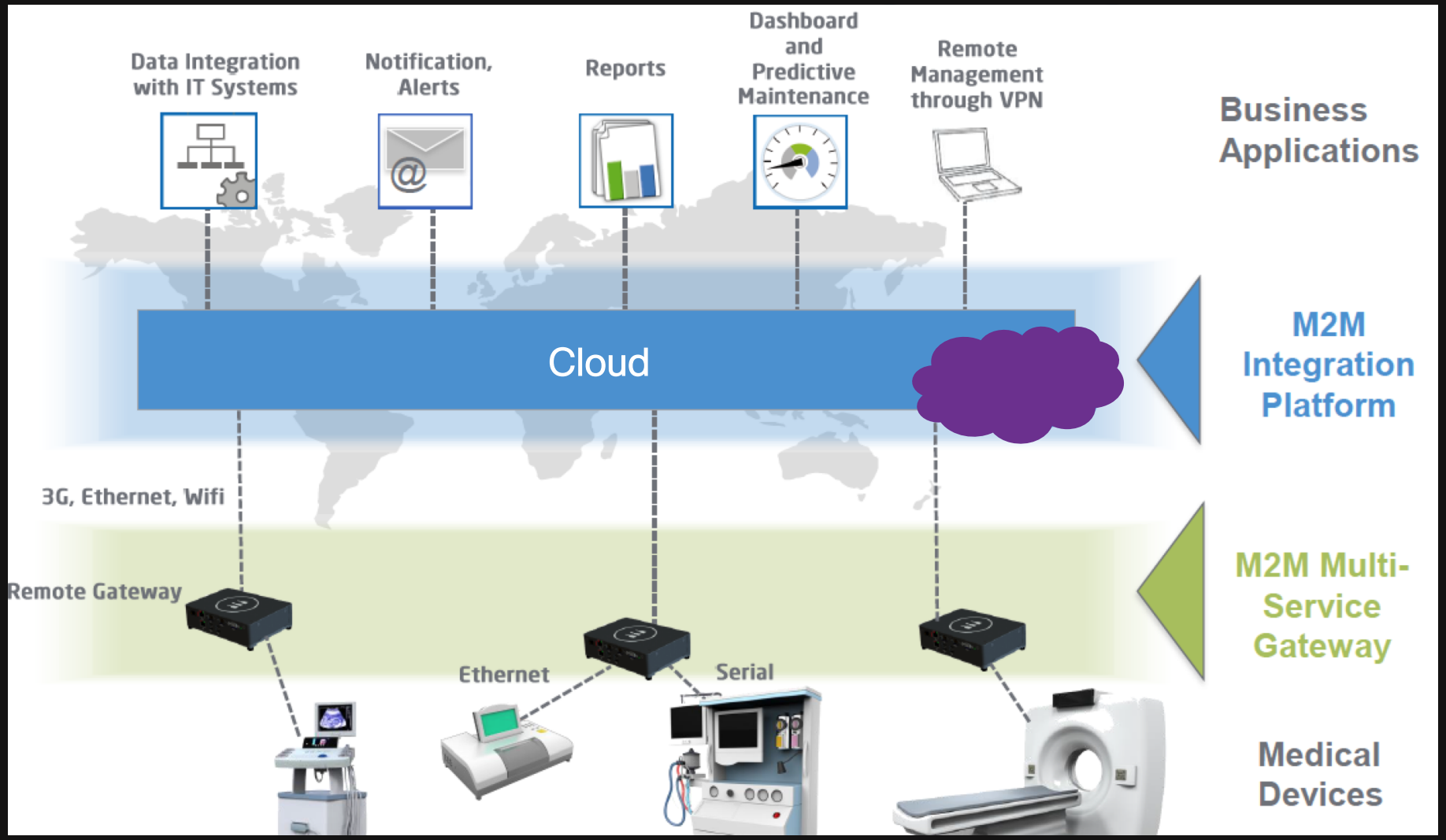
Integration using Gateway



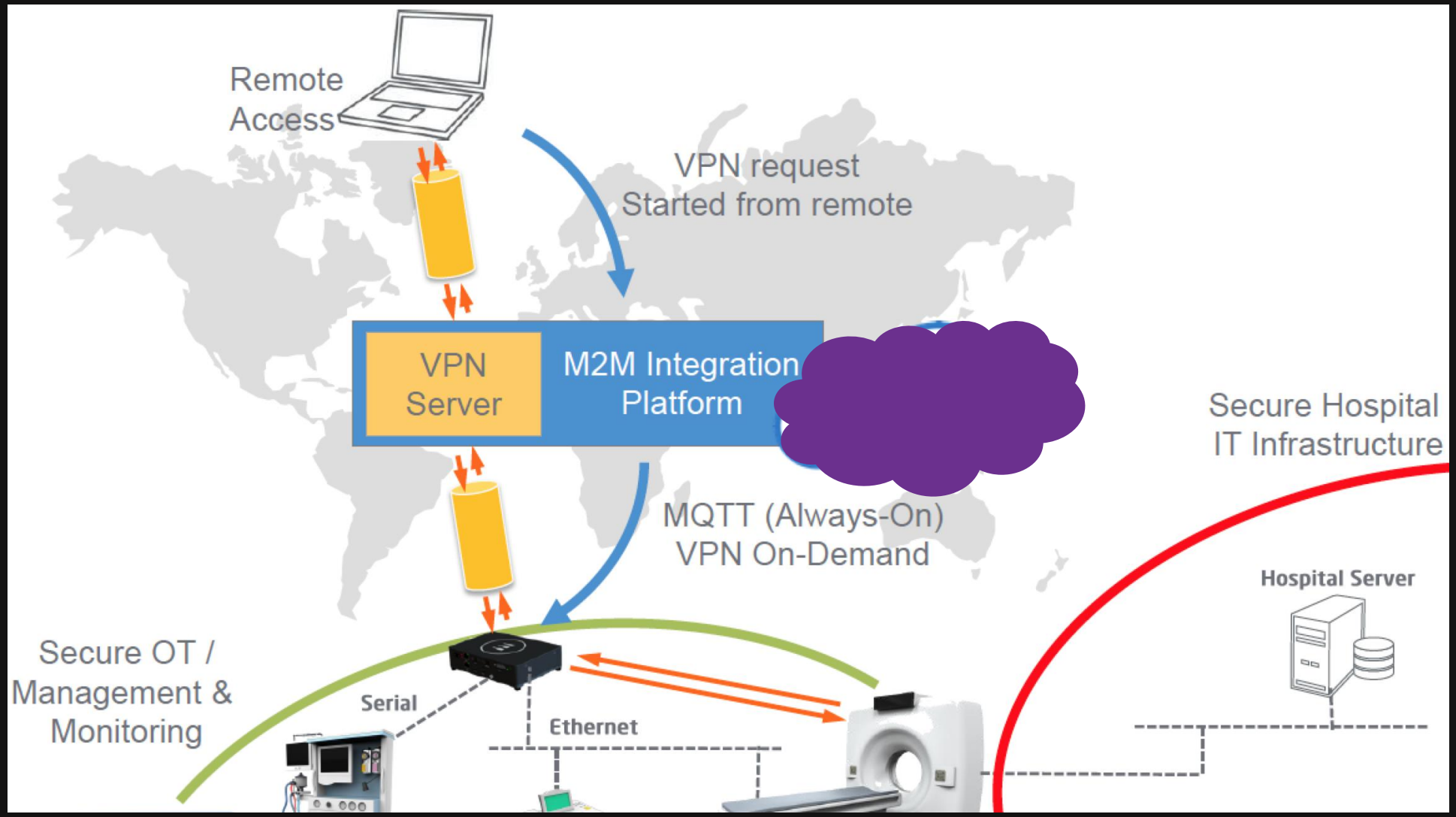
Platform



Remote Monitoring : How it works ?



VPN Driven



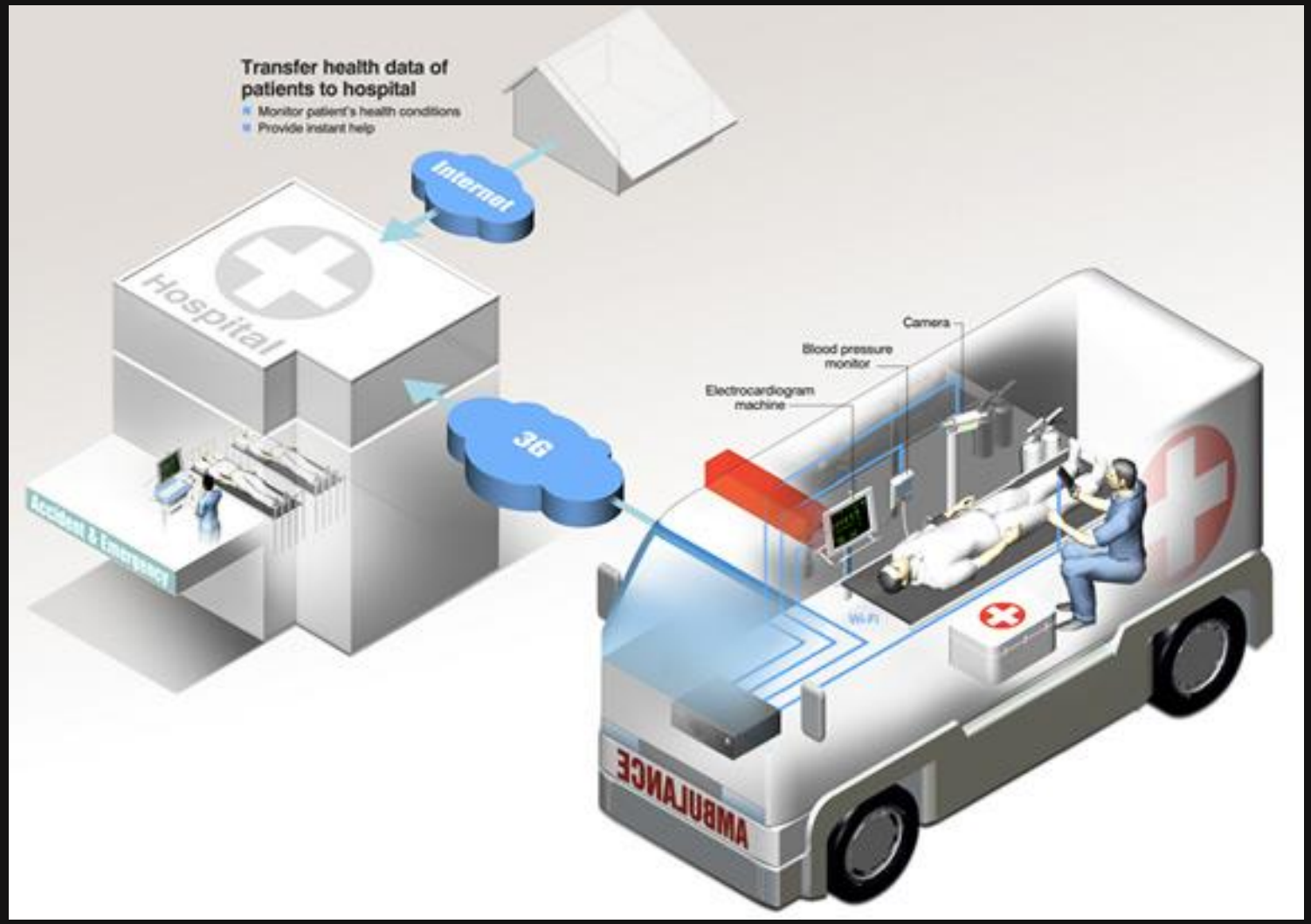
IoE HealthCare – Devices?

Hospital Devices

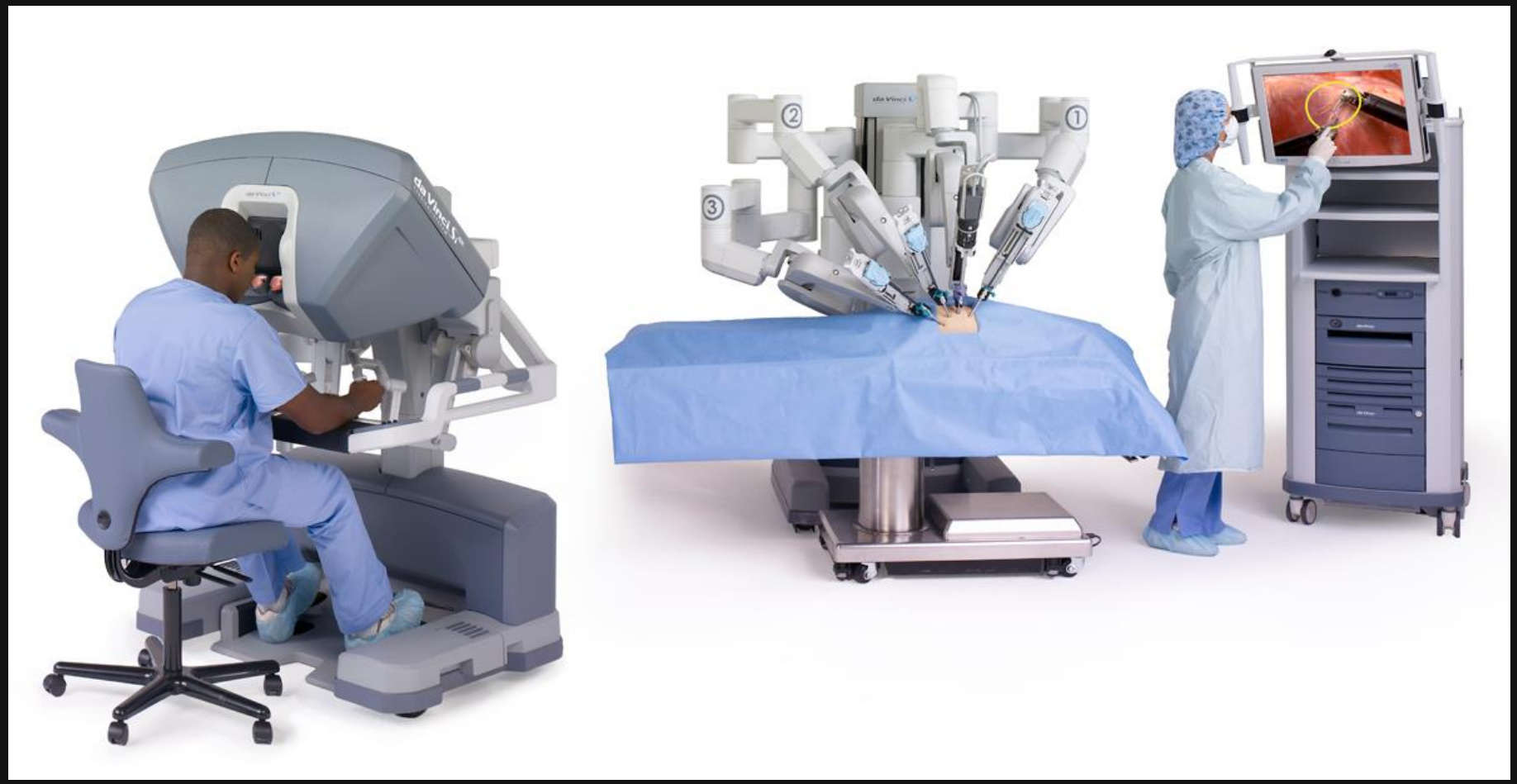
Doctor's Office Devices

At Home Devices

Connected Ambulance



Robotic Surgery



IoE HealthCare – During Emergency / Disaster

Cisco NERV –
Network Emergency Response Vehicle

+

Tele Medicine

IoT Devices

3D Printer

=

Healing Spell

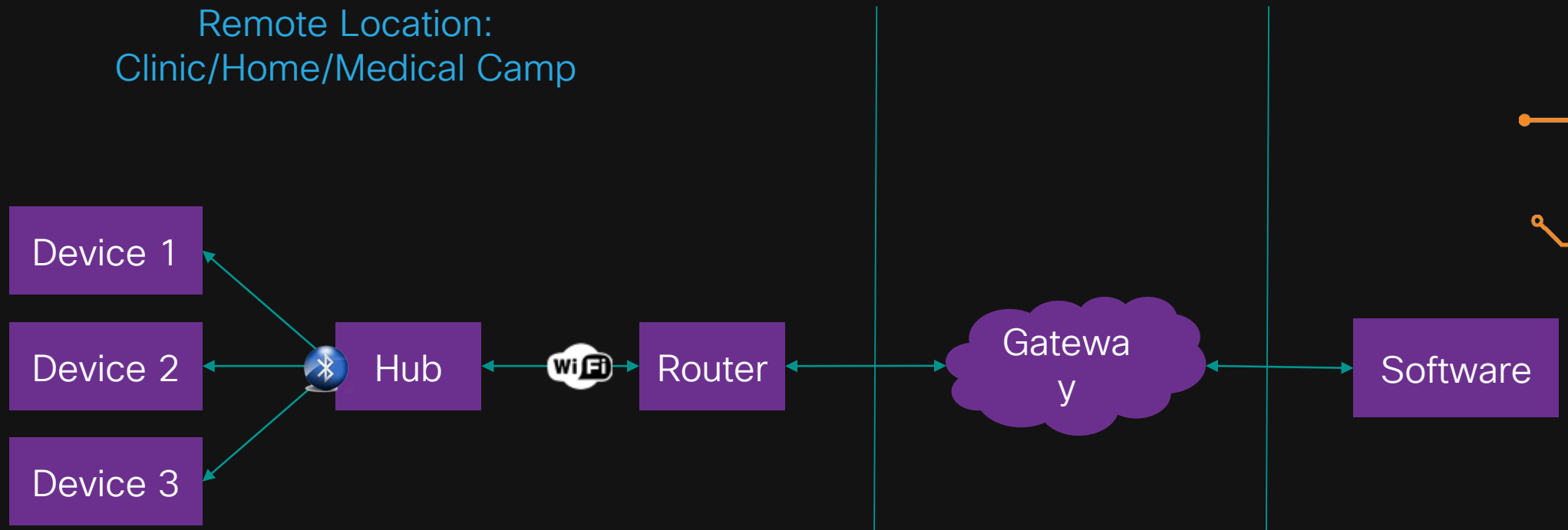
Telemedicine

Telemedicine is the use of Telecommunication and Information Technologies to provide clinical health care at a distance. It helps eliminate distance barriers and can improve access to medical services that would often not be consistently available in distant rural communities.

Telemedicine – IoT Devices

- Blood Pressure Monitors
- Oximeters
- Glucometer
- and more

Telemedicine – IoT Devices , How it works ?



Telemedicine – IoT Devices : Best Practice / Standards

- HIPPA Complaint
- HL7 Standard
- FHIR Format for Device data
- Continua

Q&A

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