

IoT Applications & Their Implications on Hardware Security

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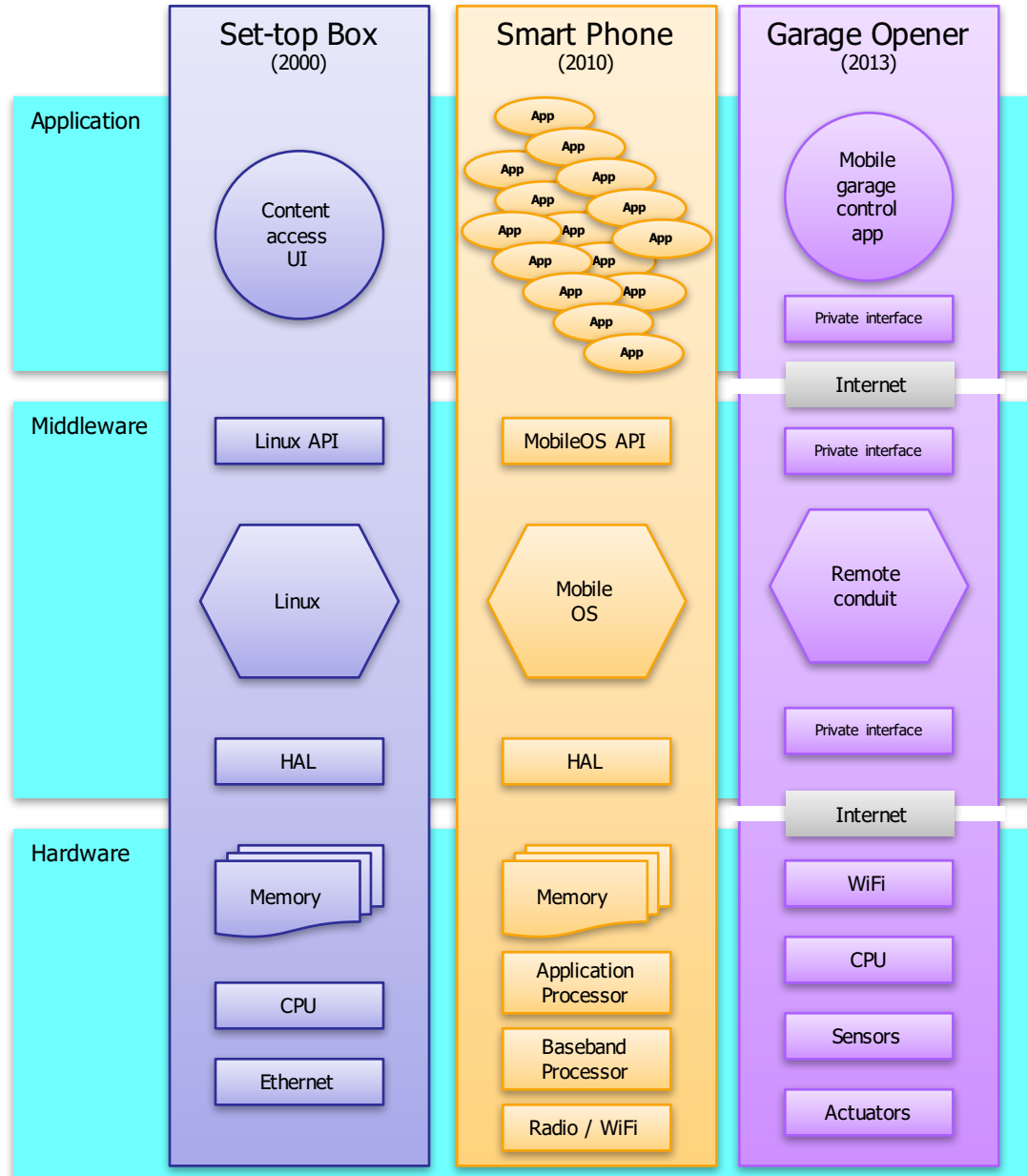
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What is IoT?

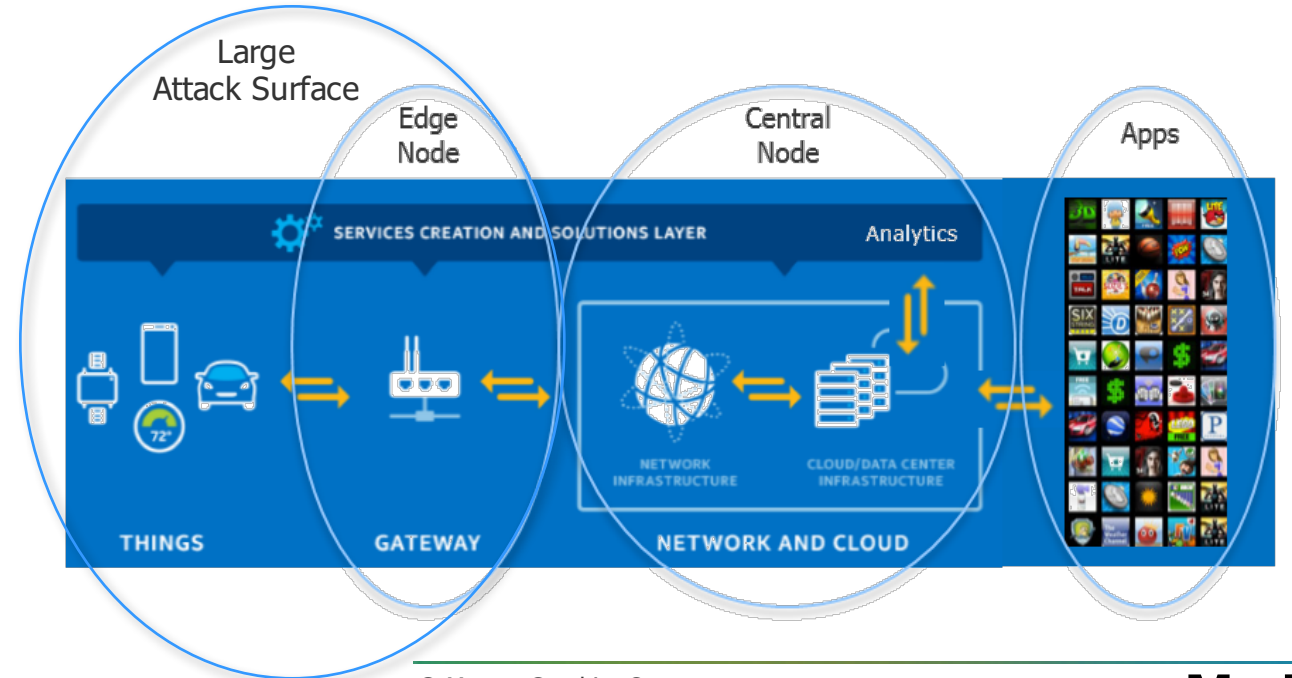
- **Internet** connected general purpose computers
- **Internet of Things** connects everyday objects to **Internet**
- Everyday objects have to be re-designed to include **computers**
 - Standalone TV becomes a “Smart TV” by connecting to Internet and offering on-demand content, shopping, browsing, e-commerce
 - Standalone Garage Door Opener becomes smart by connecting to your smart phone over Internet



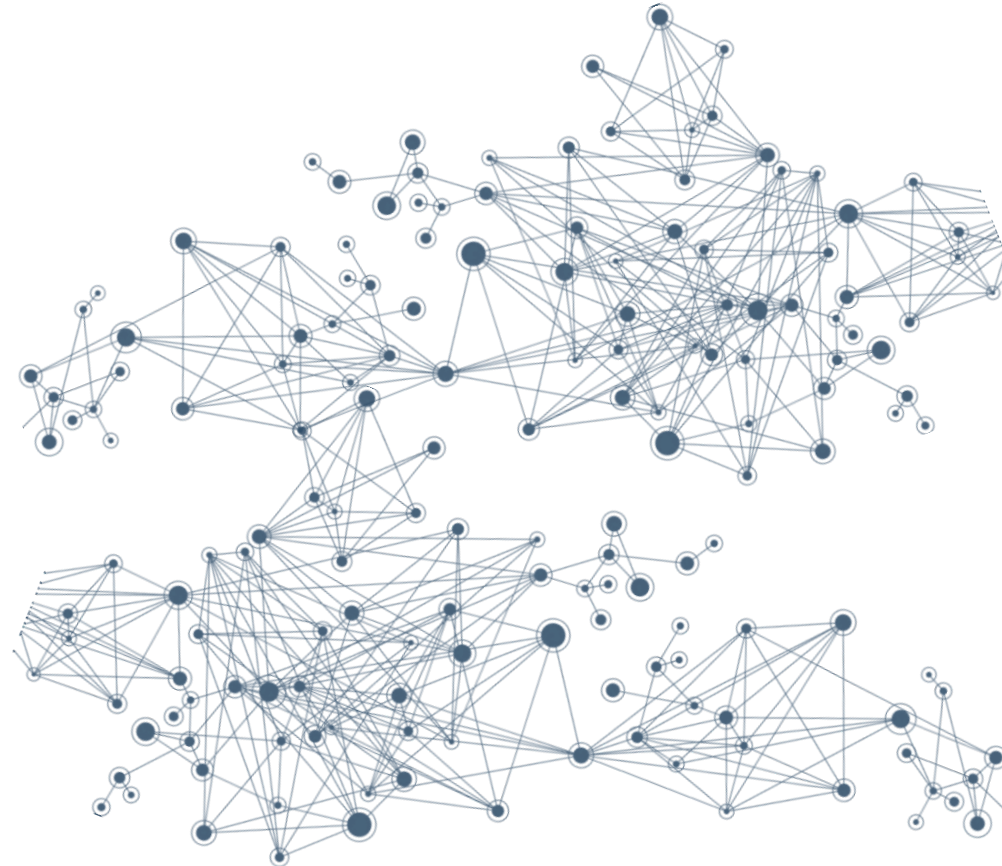
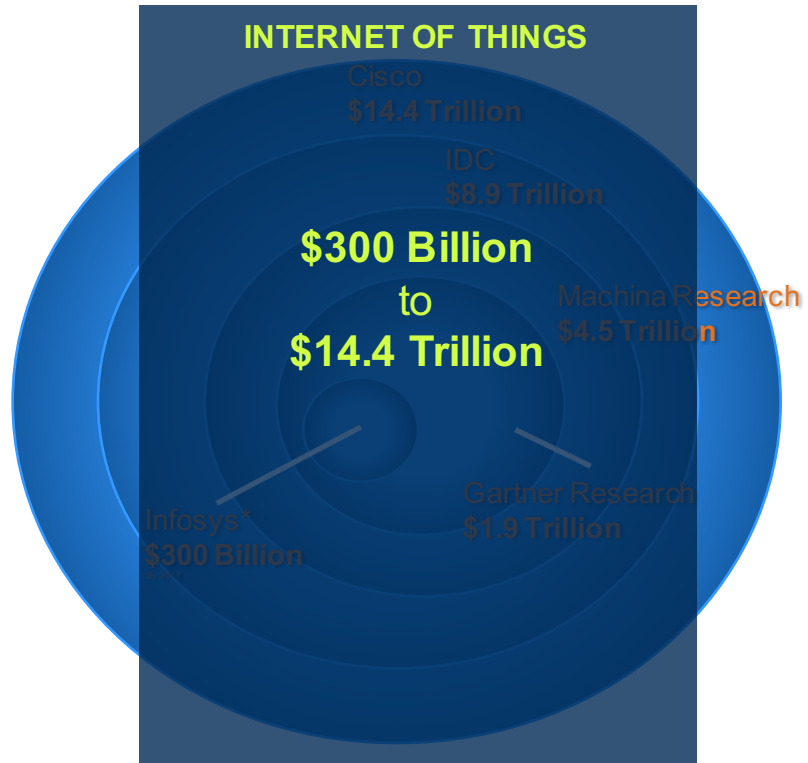
Transformation of Embedded Systems into IoT world



- Definition of embedded system is changing, it's morphing into a connected IoT end node

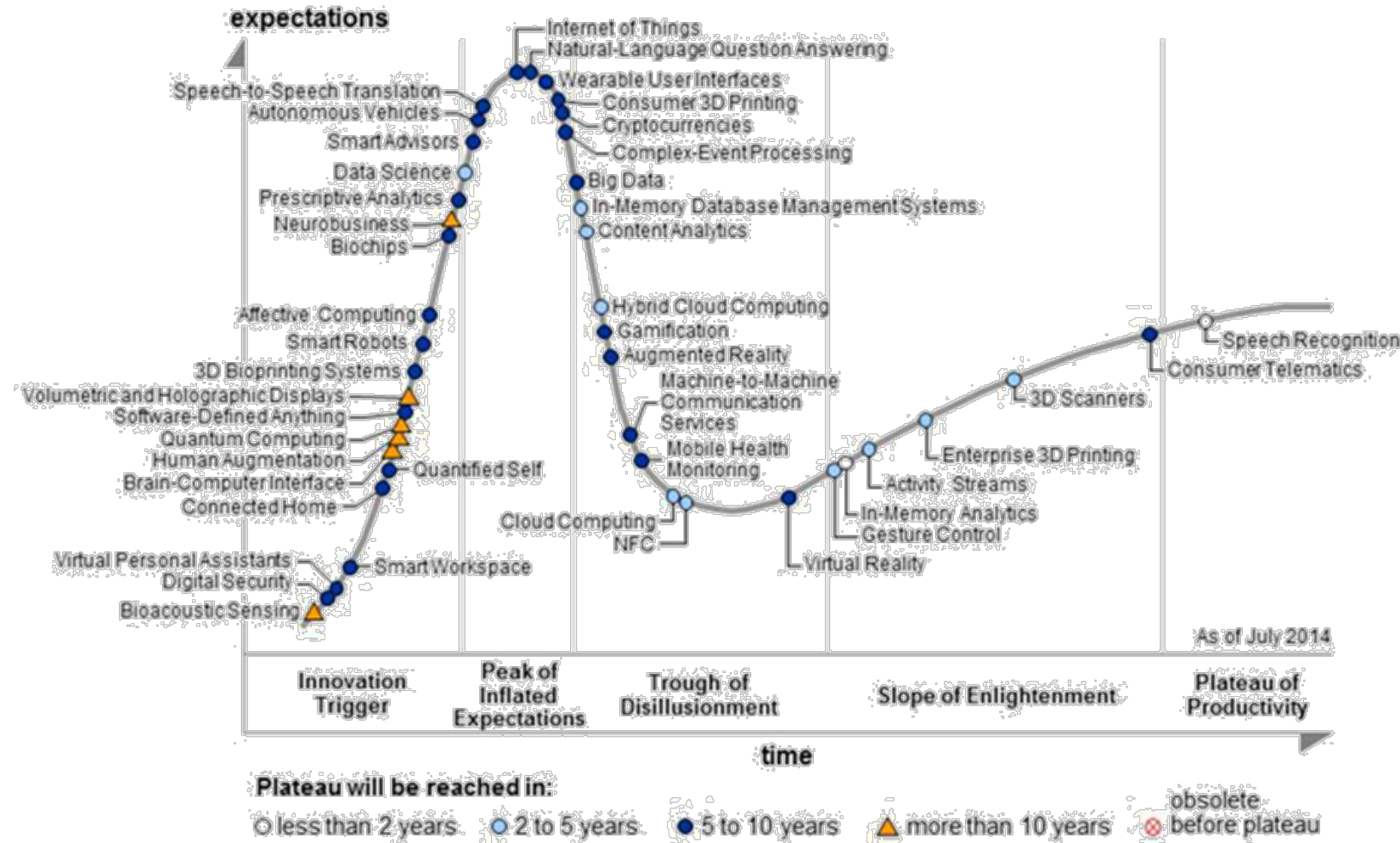


IoT Projected Market Size Generates Excitement



HYPE IN 2015 AROUND THE INTERNET OF THINGS (IOT)

Source: Gartner (August 2014)



...But

- IoT is not a singular homogeneous thing
- It's an enabler for numerous vertical applications...

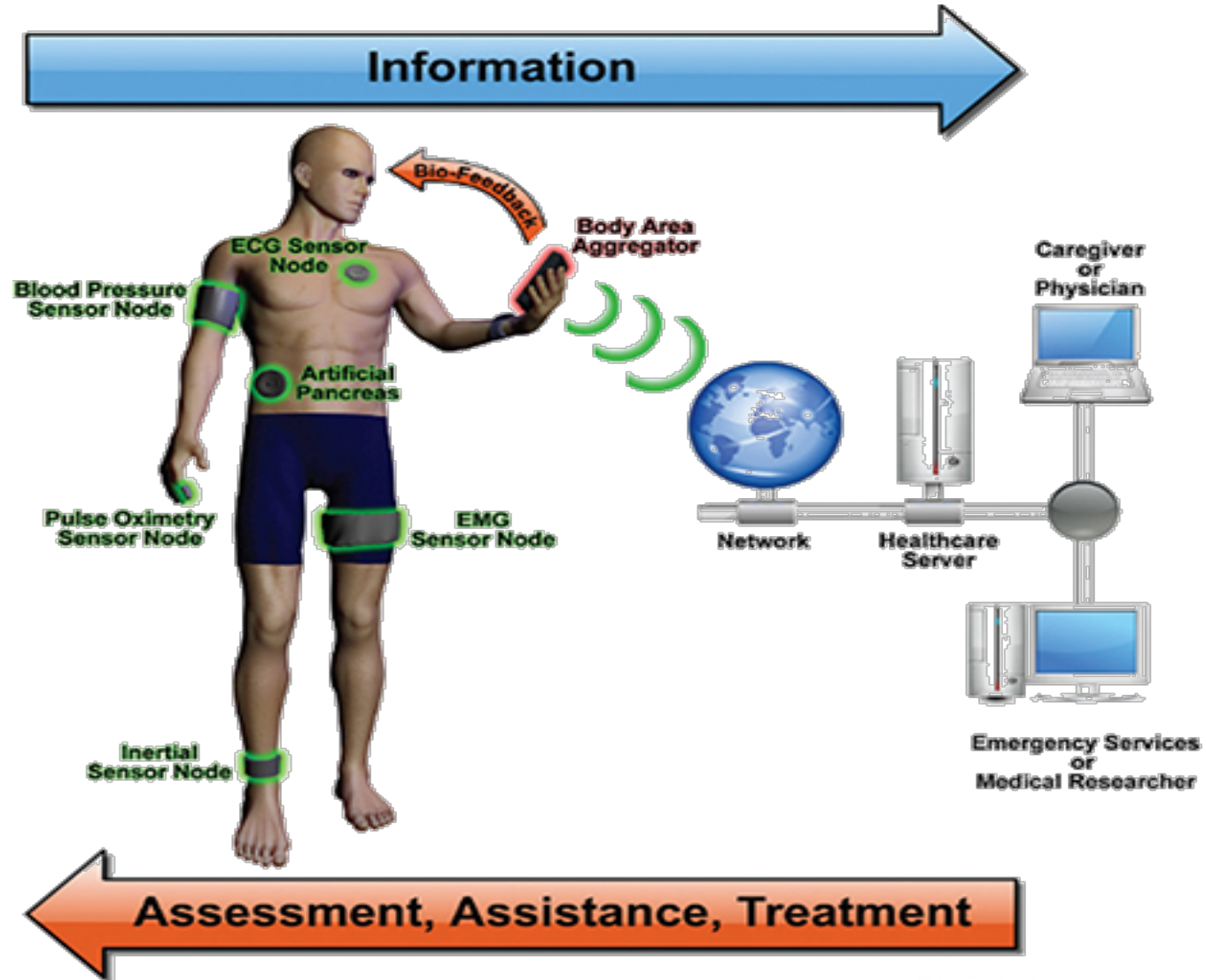
...Where

- Domain expertise

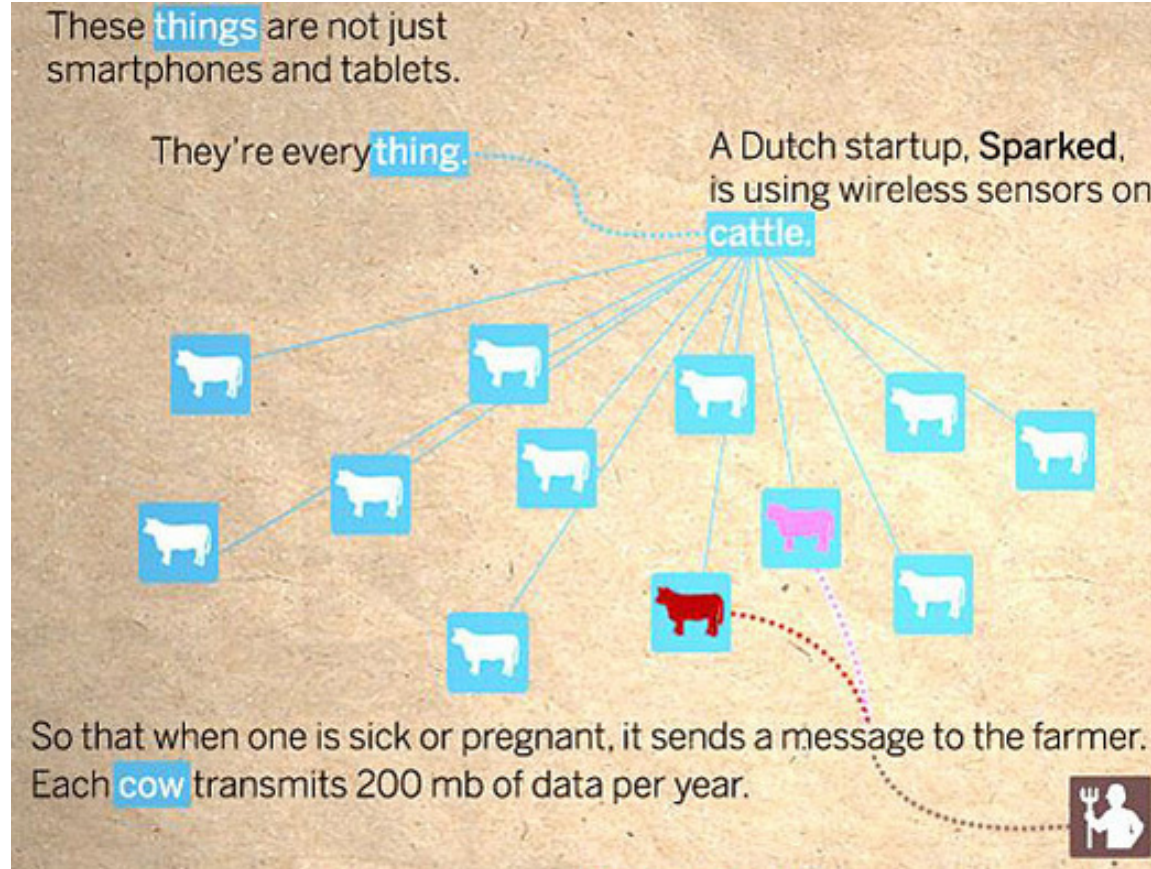
meets

- Mobility, Sensors
- Limitless storage
- Infinite compute power
- Pervasive internet access

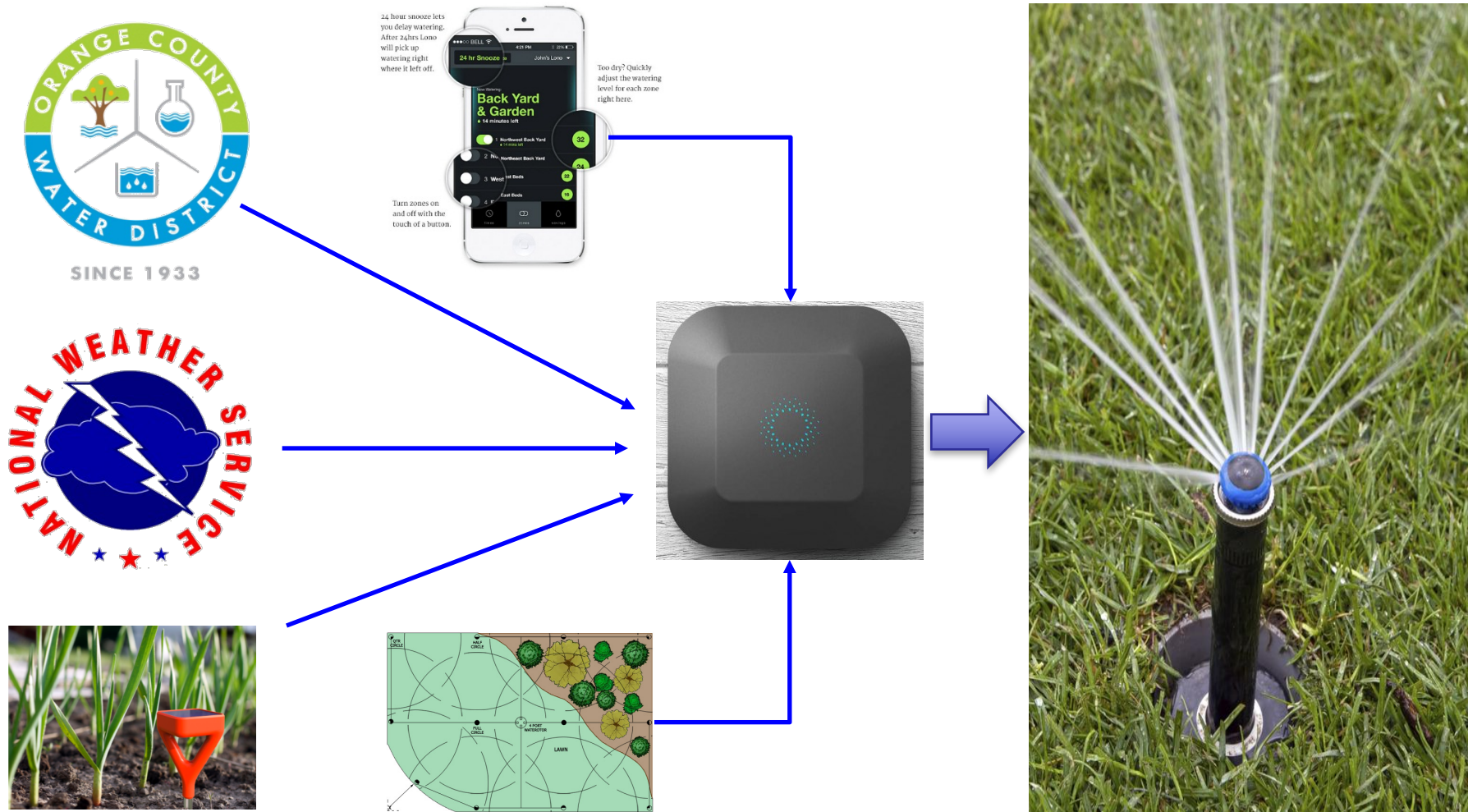
IoT Health Care Application

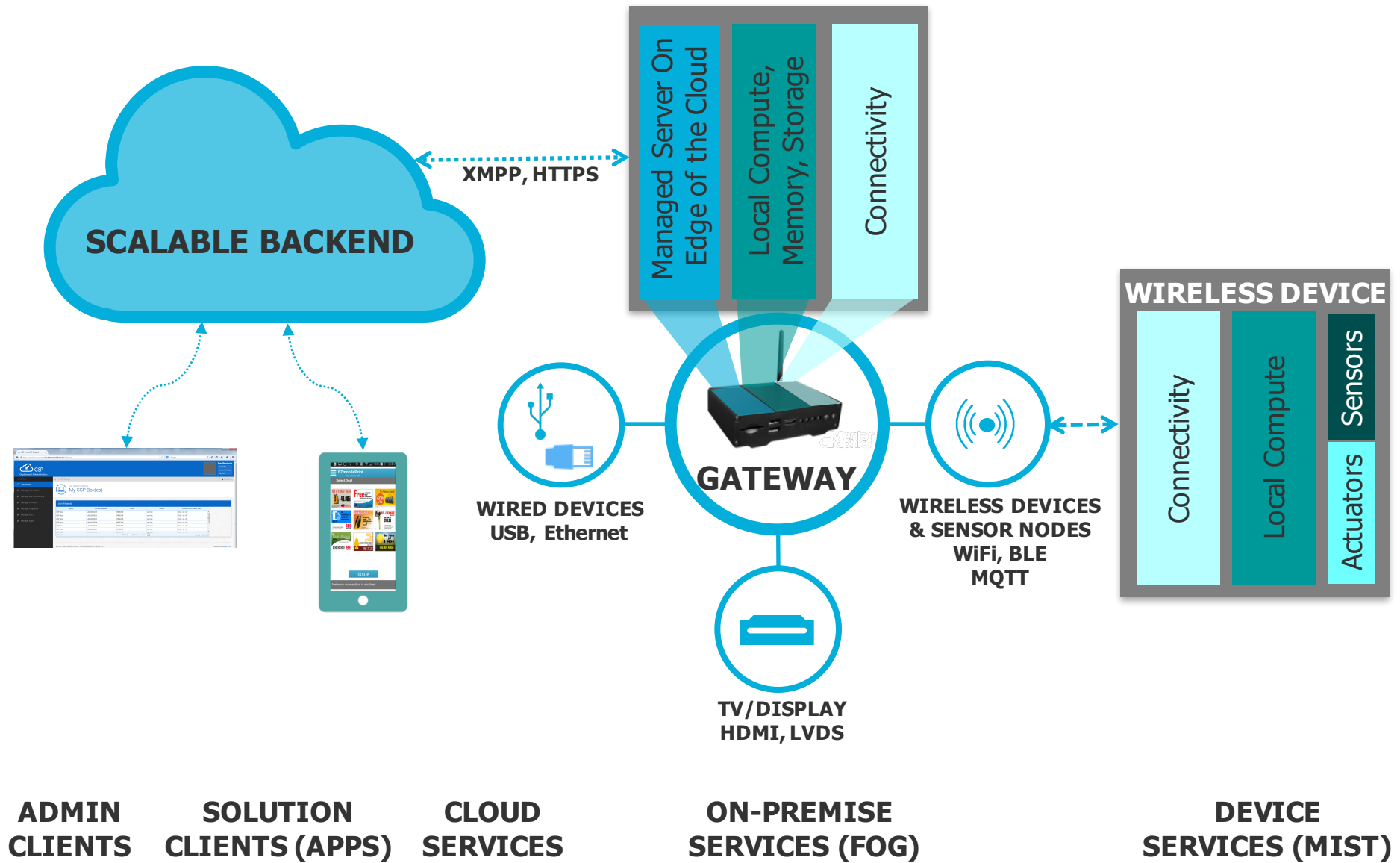


IoT Agribusiness: Connected Cows

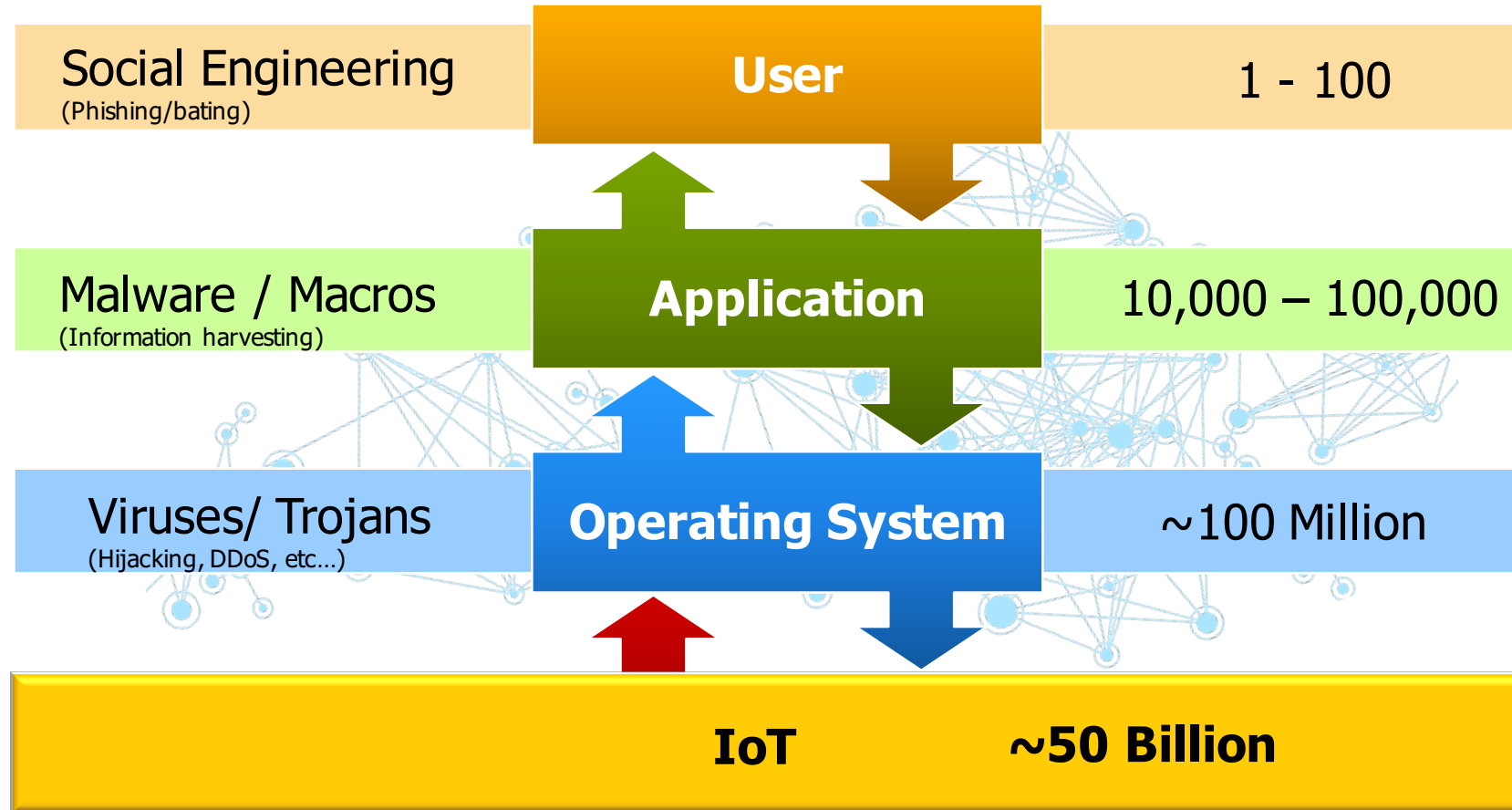


IoT Smart Garden: Lawn Sprinklers

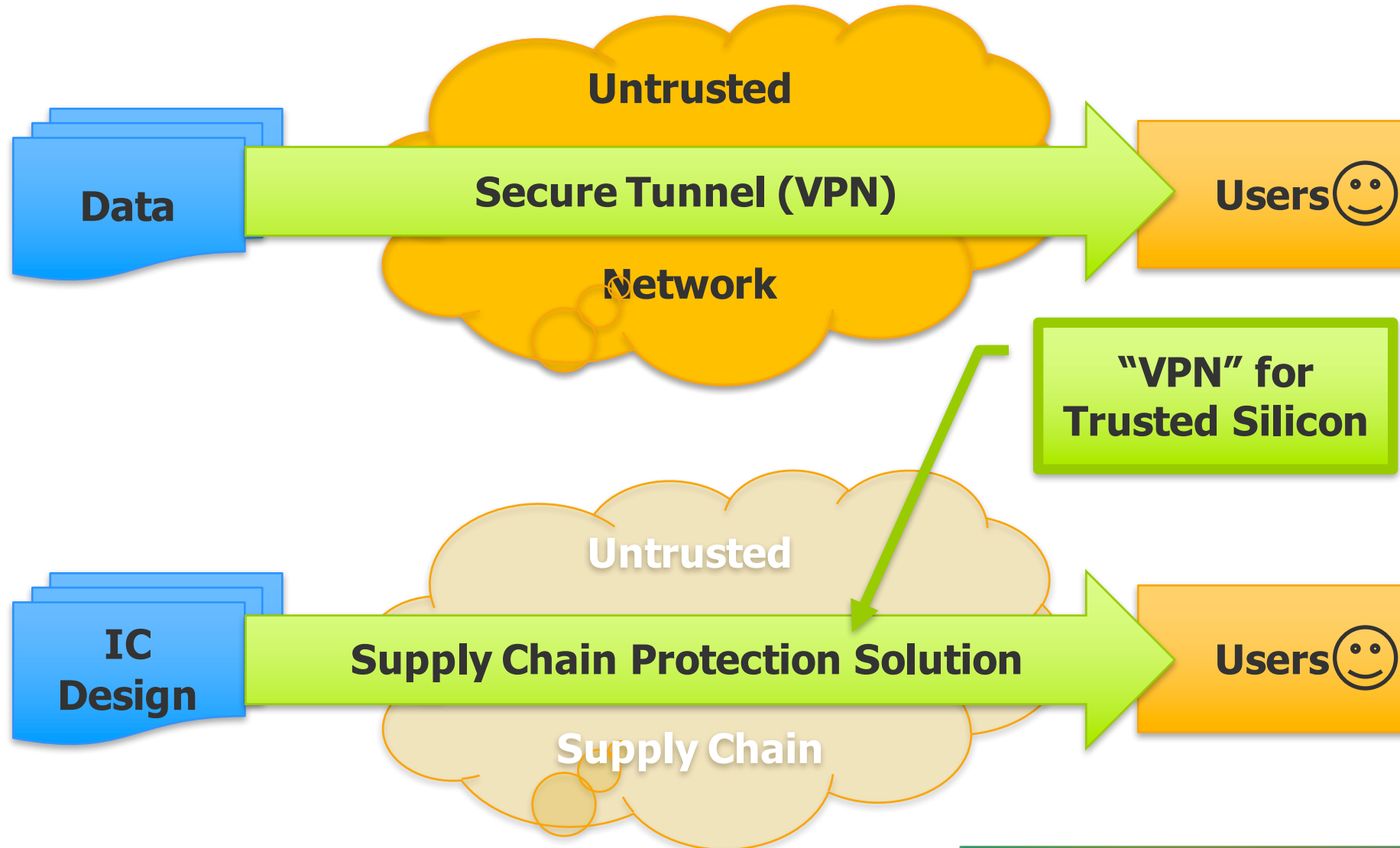




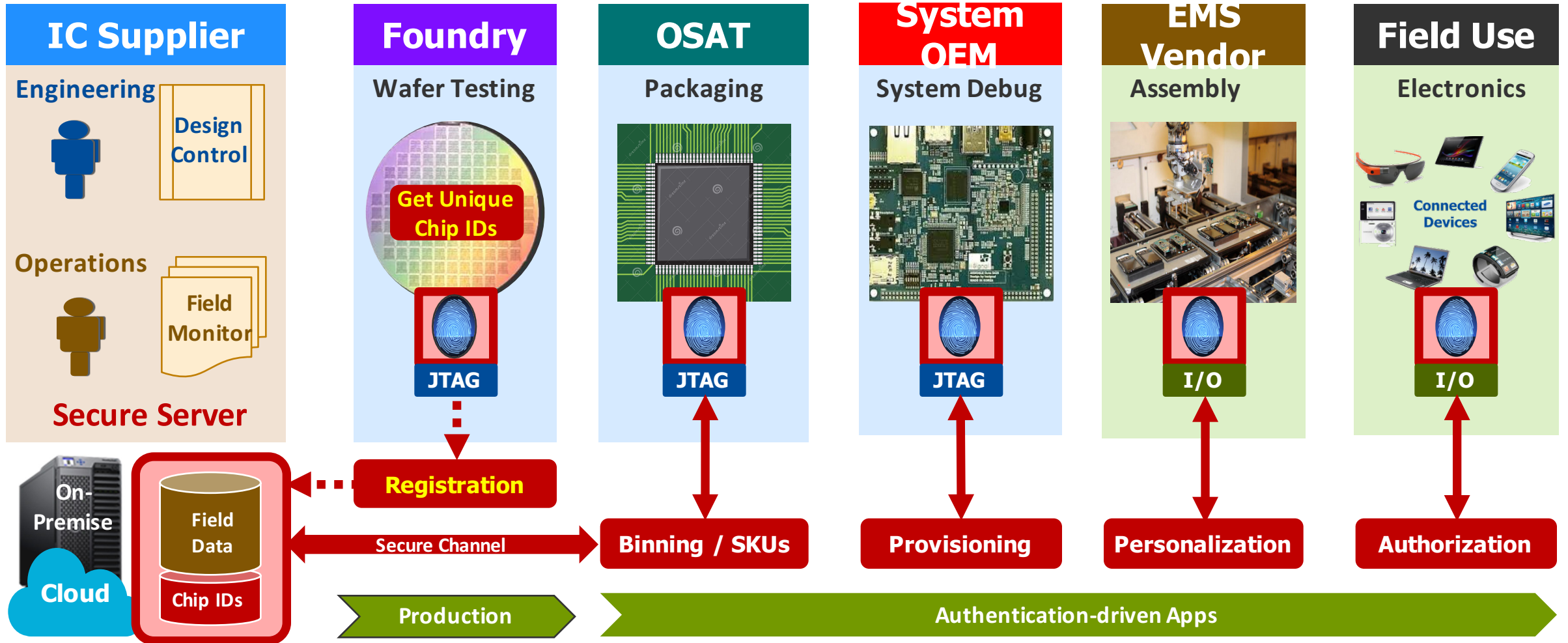
“Race to bare metal” – cyber attacks move lower in the stack ...and IoT edge nodes are “soft targets”...



Creating Secure Silicon in an Untrusted Environment — VPN for Silicon



Secure Supply Chain Management Process



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