



# UIC

DIGITAL PLATFORM

*"Share, Open, Connect!"*

**Intelligent Rail Summit  
Vienna - 29/11/2017**

# Digital trends worldwide

- Digital revolution; anyone can potentially provide or collect information
- Internet of Things
- Big data



# Railway

- Interoperability
- Reliability and Capacity
- High-speed rail transport
- Digital signalling
- Predictive maintenance
- Location Based Services

Railway can be an actor and a vector of development of the 21st century

# Digital Platform missions

Open

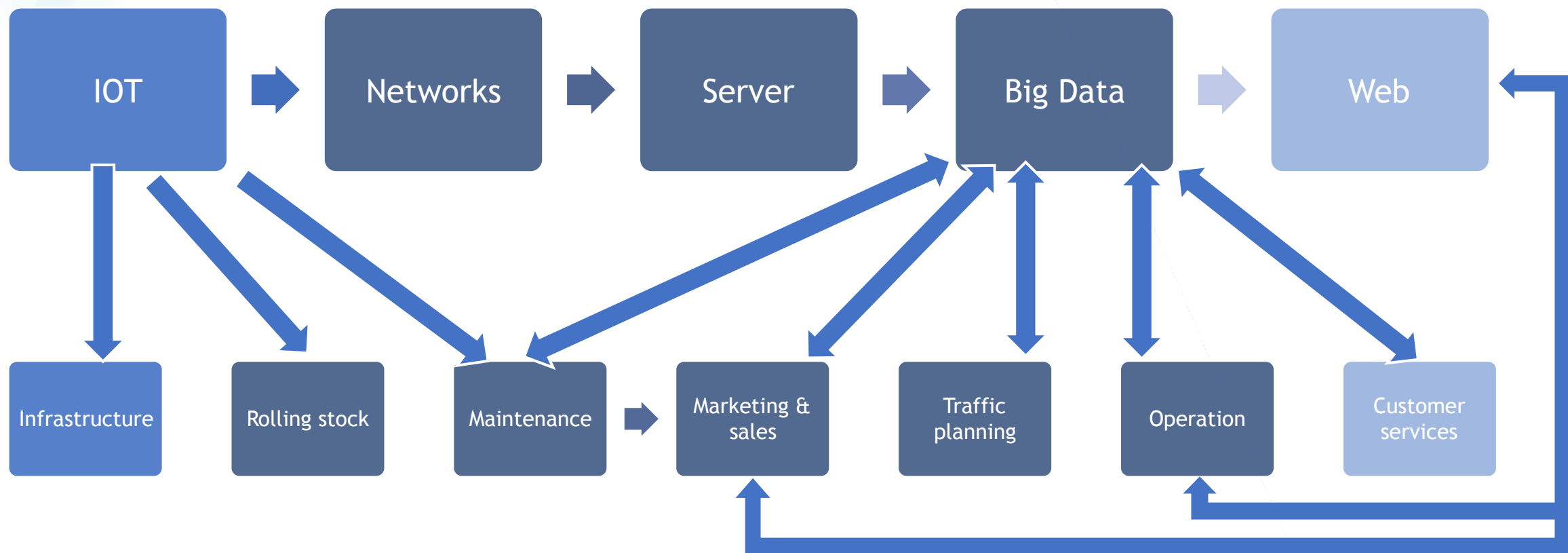


Share

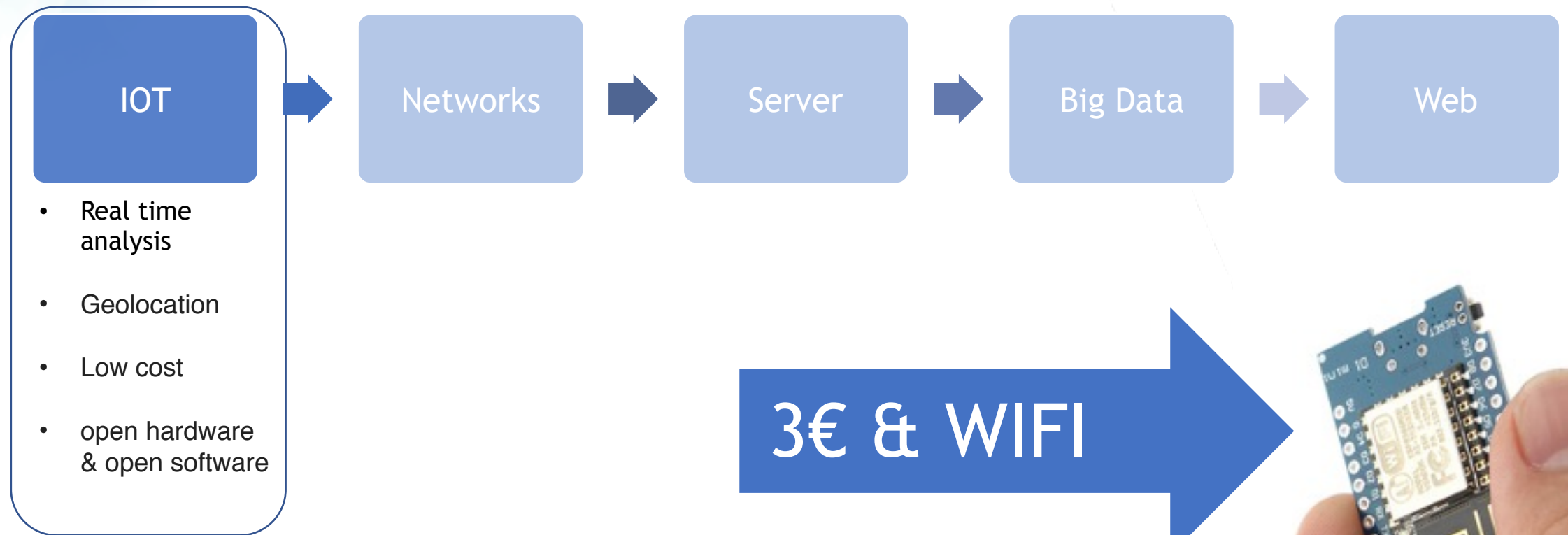


Connect

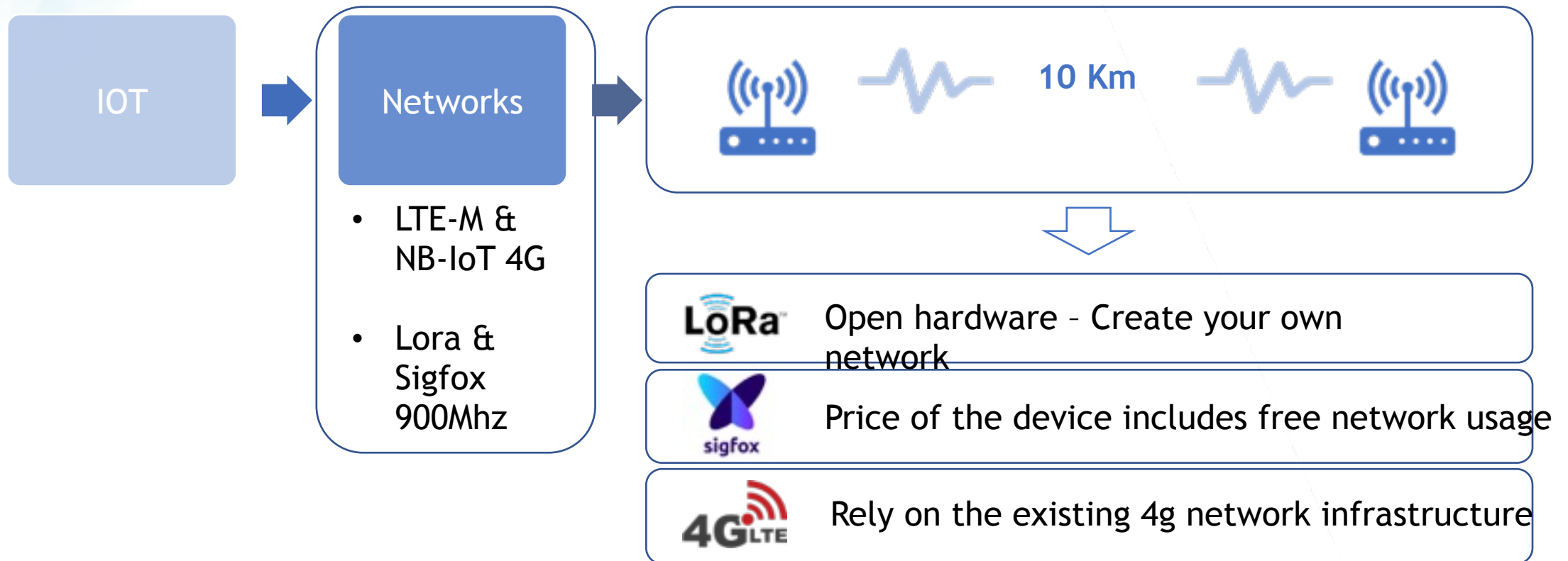
# Digital cycle



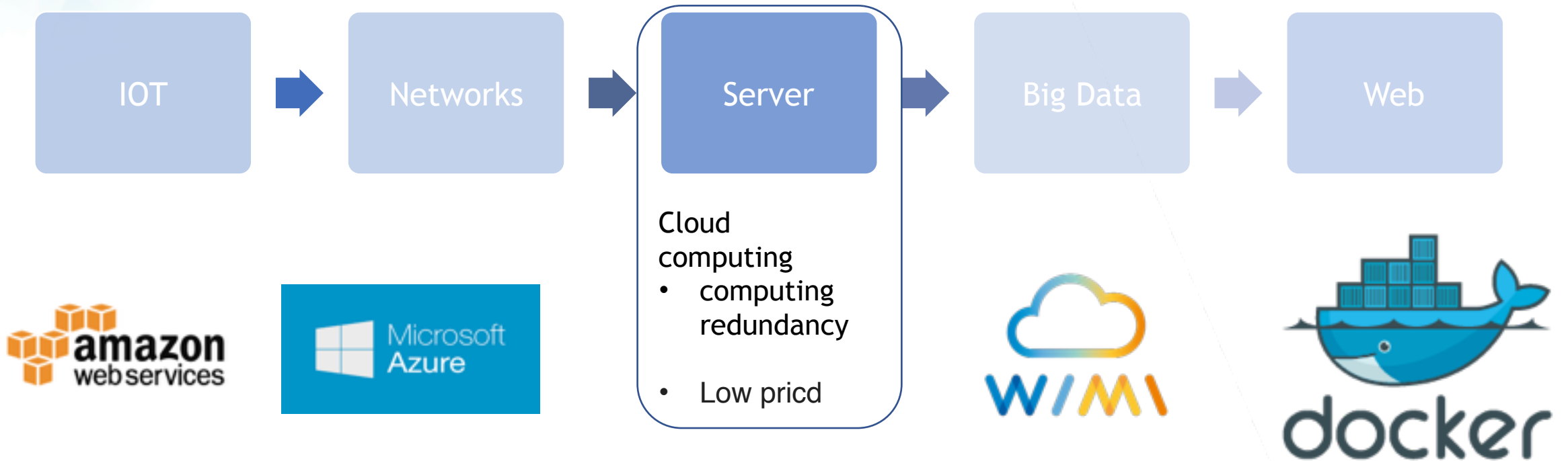
# Digital cycle & opportunity



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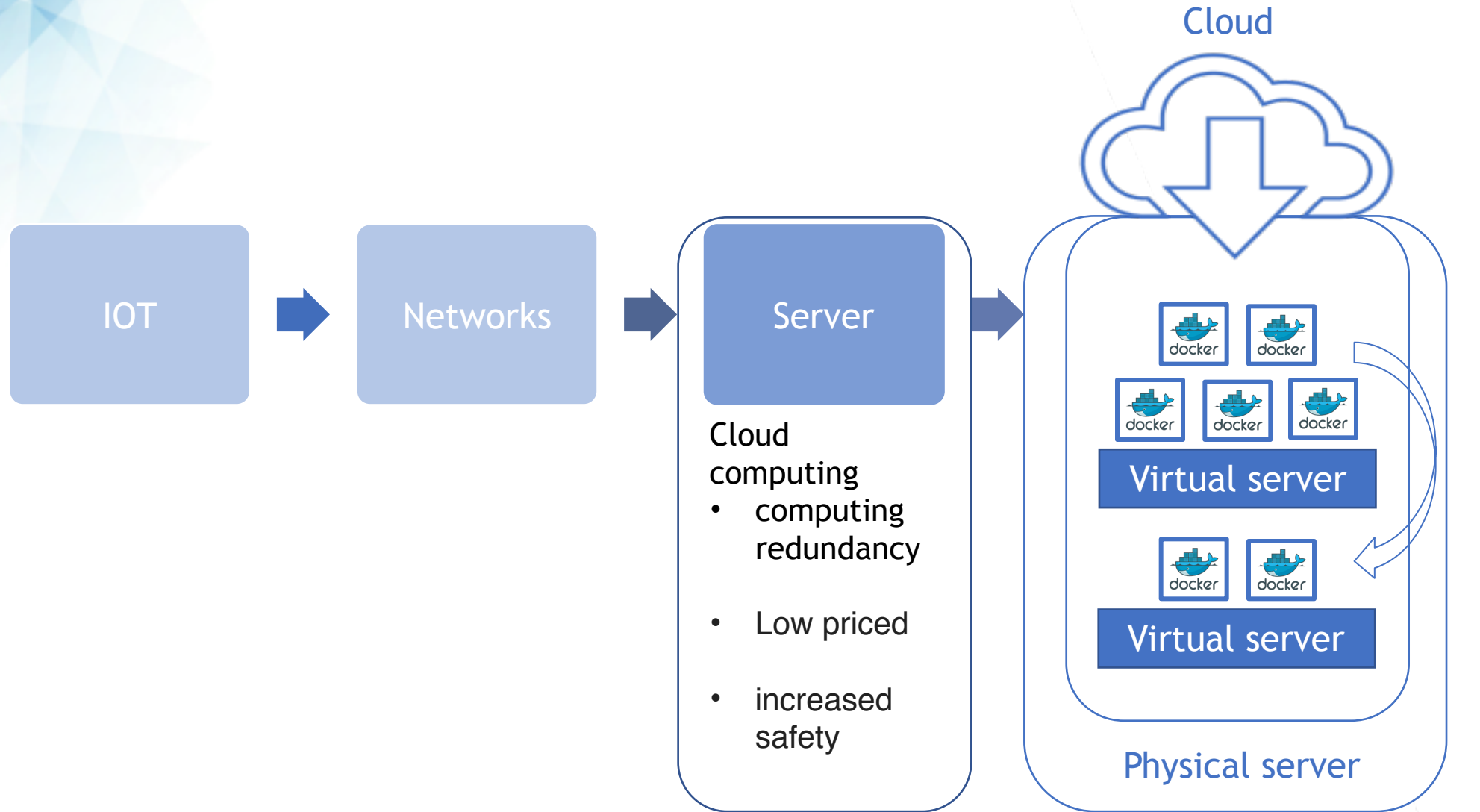


# Digital cycle & opportunity



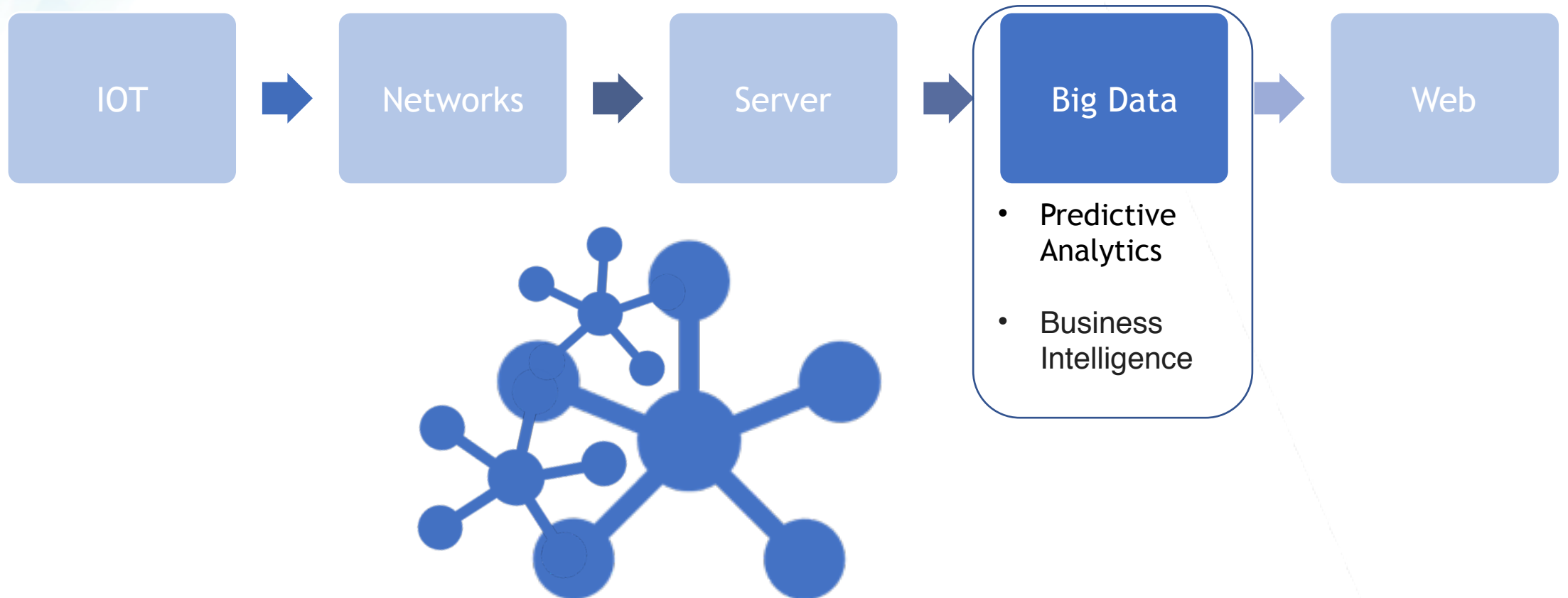


# Digital cycle & opportunity

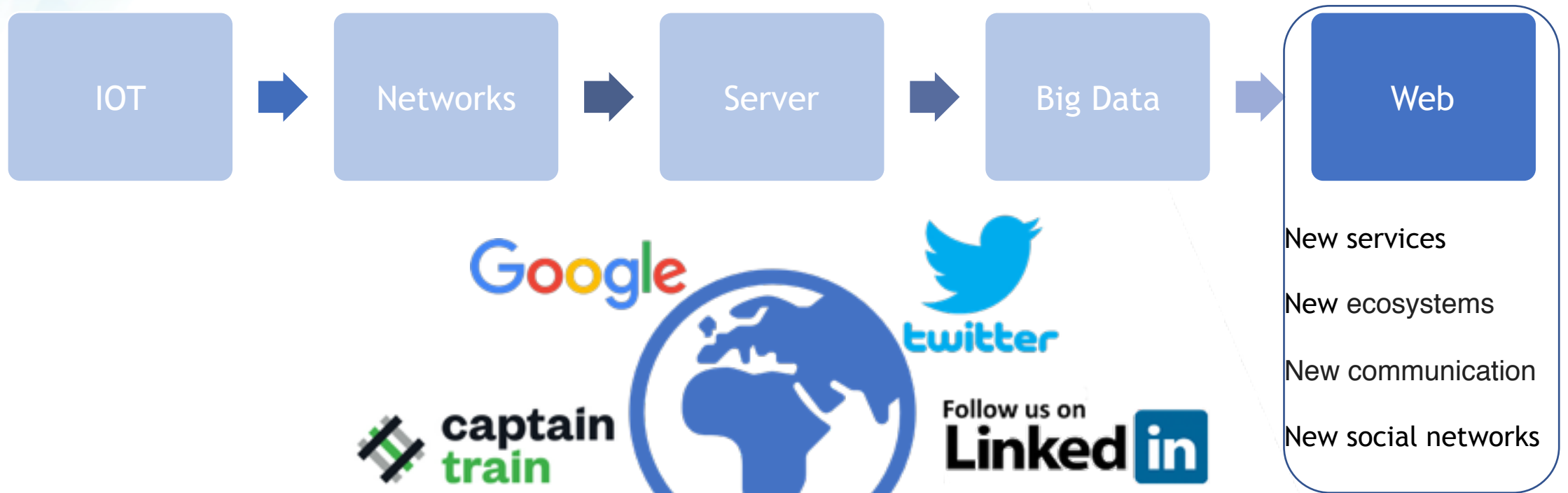


Different levels of virtualization

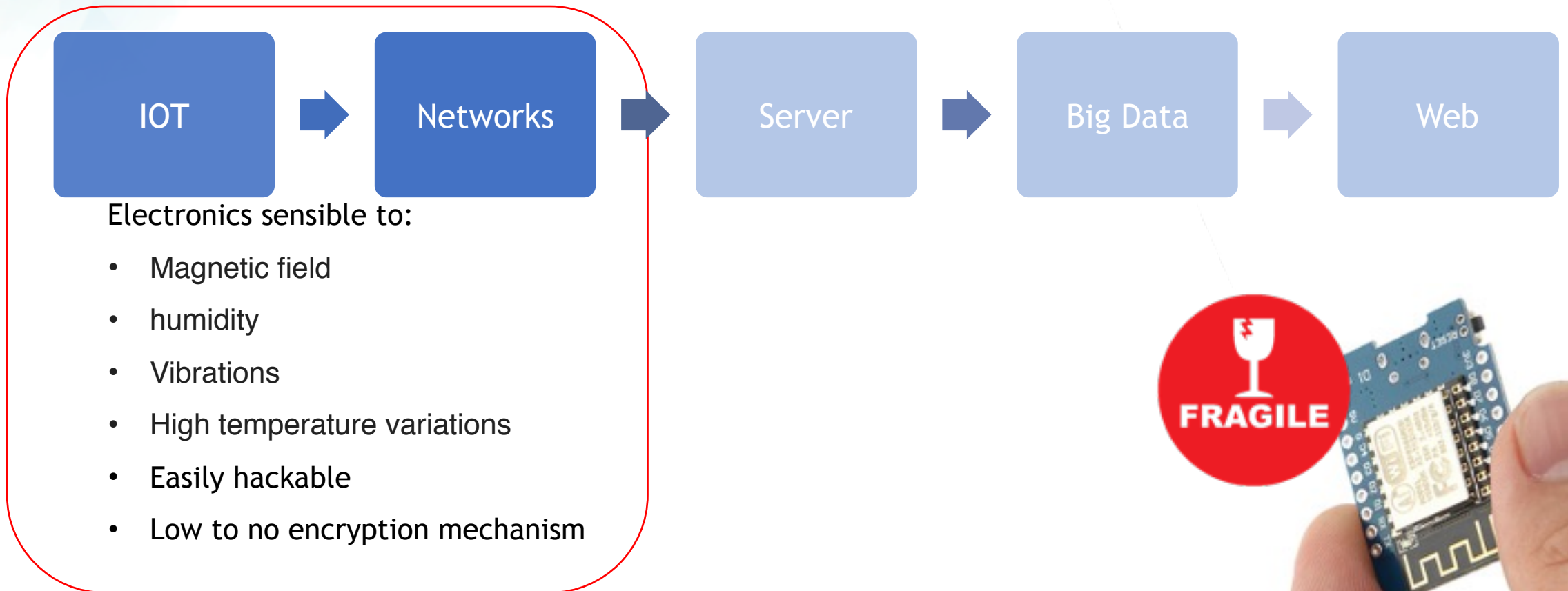
# Digital cycle & opportunity



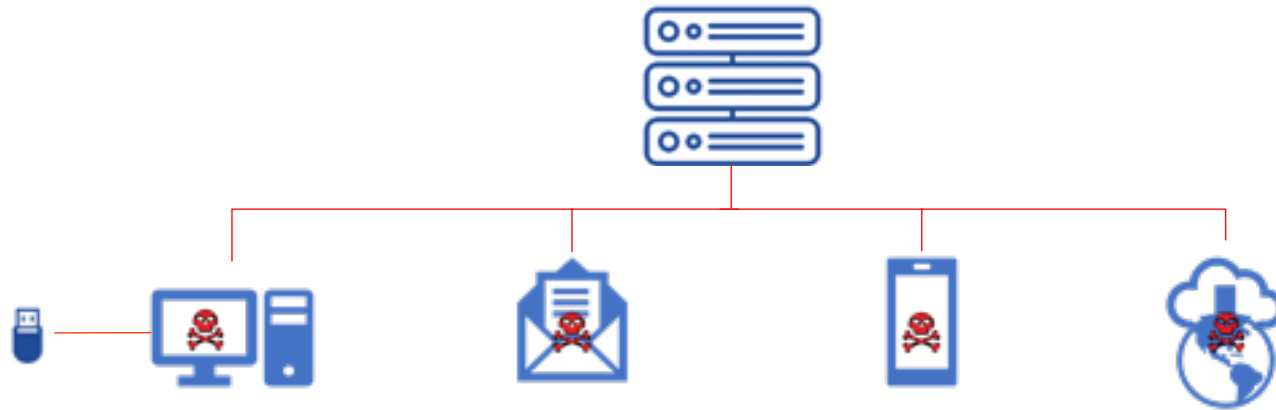
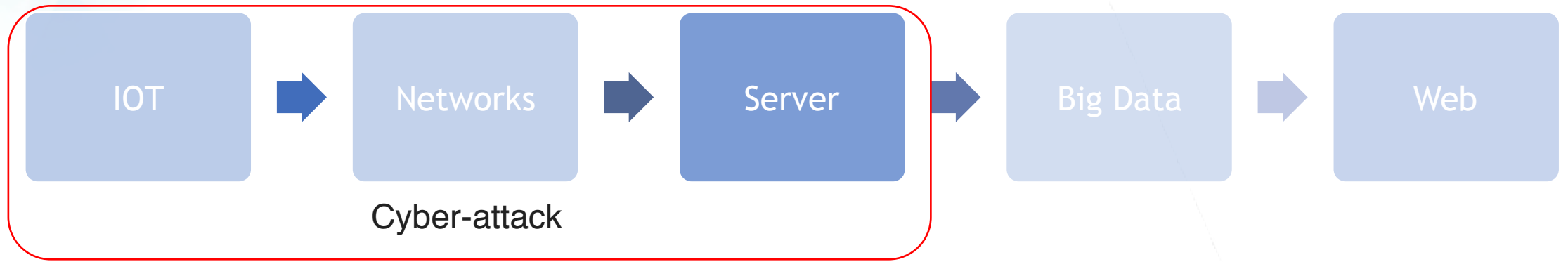
# Digital cycle & opportunity



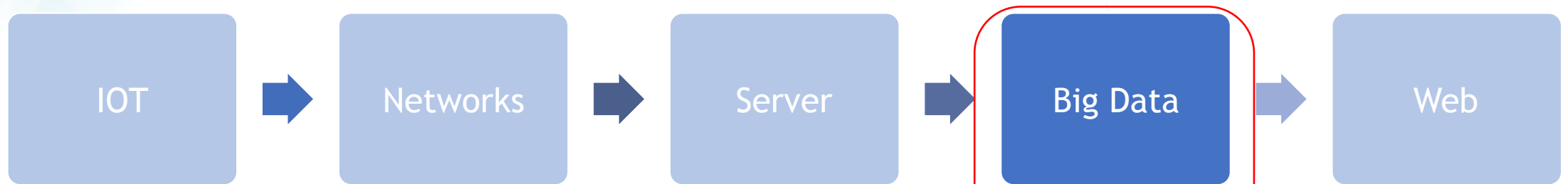
# Digital cycle & risks



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- Amount of data scaling exponentially
- Loosing track of all the data



# Digital cycle & risks



Social network go faster than business communication

GAFa enterprises can claim parts of your business and sell what you sell in spite of you

Hack window on the whole business infrastructure

# Digital cycle & **Cyber** **security**

- Safety is key
  - Digital → new vulnerabilities
- Risk is real! Must be a  
priority**

**Awareness is a pre-condition**



# Digital cycle & Cyber security

- Safety is key
  - Digital \_\_\_ new vulnerabilities
  - Vulnerabilities on operations and information
  - Extension of attack surface
- breeches in the system
- human factor

**Risk is real! Must be a priority**

San Francisco Metro System Hacked. They paid \$73,000 to Free Systems from Ransomware.

A red LED sign that reads "Out of Service" in a pixelated font, mounted on a machine.A sign that says "tickets" in a large, dark font, part of a machine's interface.

# Digital cycle & Cyber security

## What preconception to limit the risk ?

- Check for vulnerabilities on OS
- Create sub-network to isolate every department to limit the spread of a virus
- Create cycles for saving the most critical information
- Save the data on multiple infrastructure
- Have firewall and anti-virus up to date for every type of transmission (mail, USB, TCP/IP, ...)

# Digital cycle & Cyber security

## What IoT preconception to limit the risk ?

Generally, IoT is more vulnerable than conventional hardware

- Create close network for IoT
- Encrypt information on the network
- Check for vulnerabilities on devices
- Create cycles for saving the most critical information
- IoT is good for tackling problems but not for replacing a functional infrastructure because of the risks of hacking
- Blackbox are dangerous, open IoT is good
- Centralized infrastructure for the control and updating of IoT
- Safety and security must be integrated from the design of the IoT

# Thanks for your kind attention

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