IoT network monitoring in a vulnerable environment

Técnicas de Perceção de Redes

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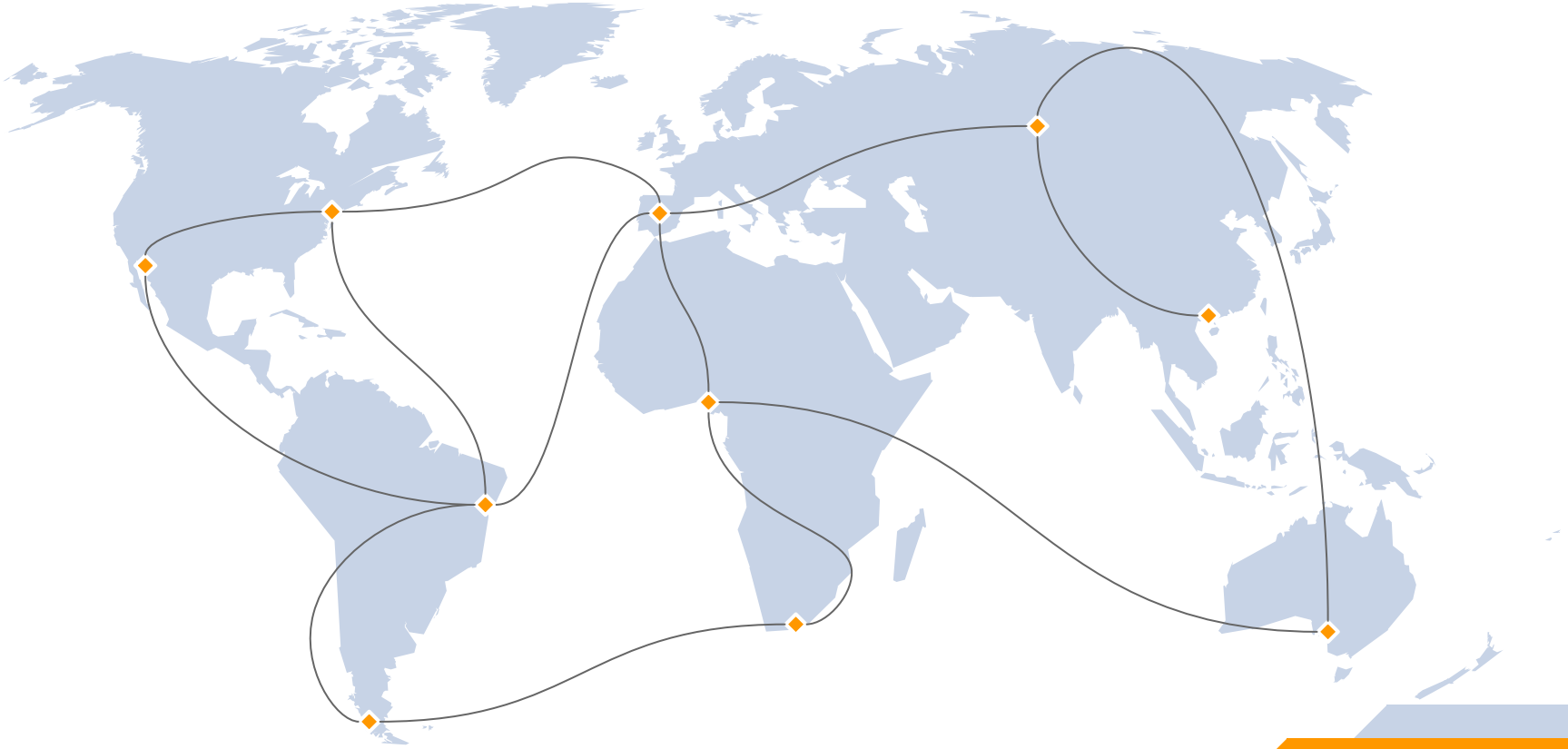
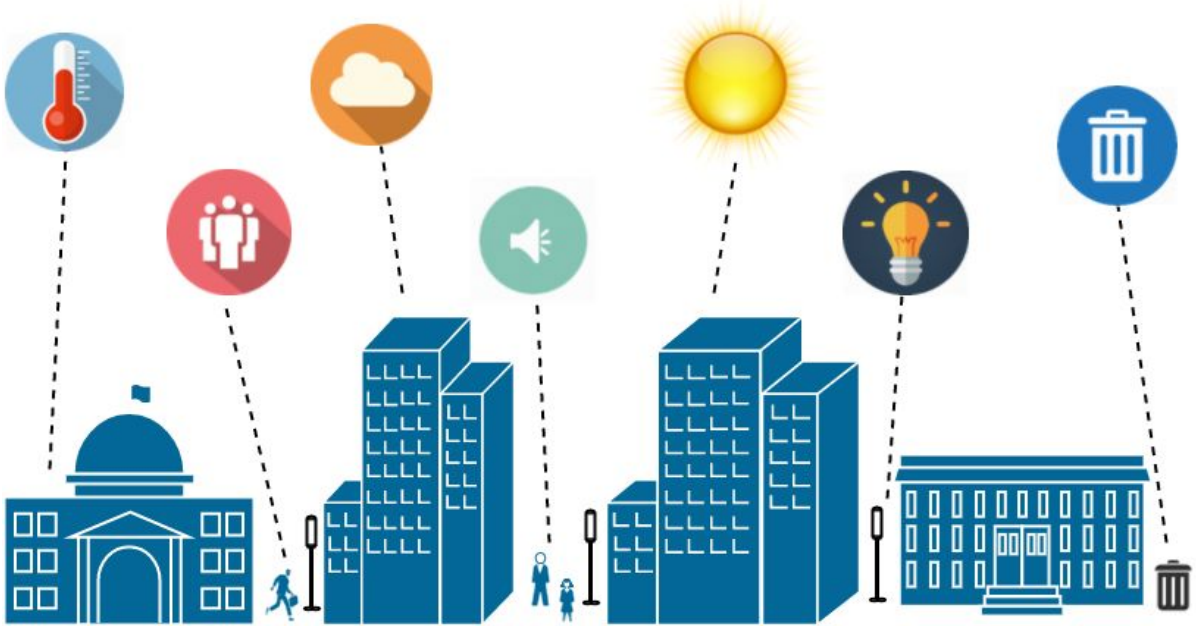
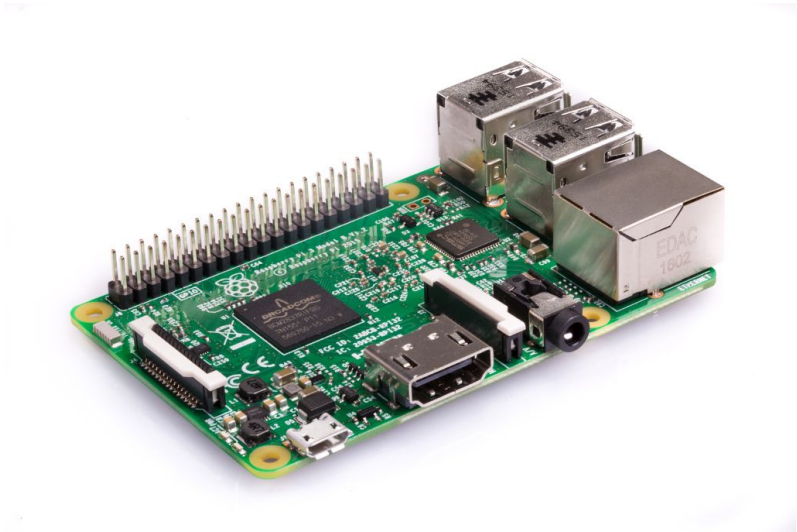
Devices communicating all over the world



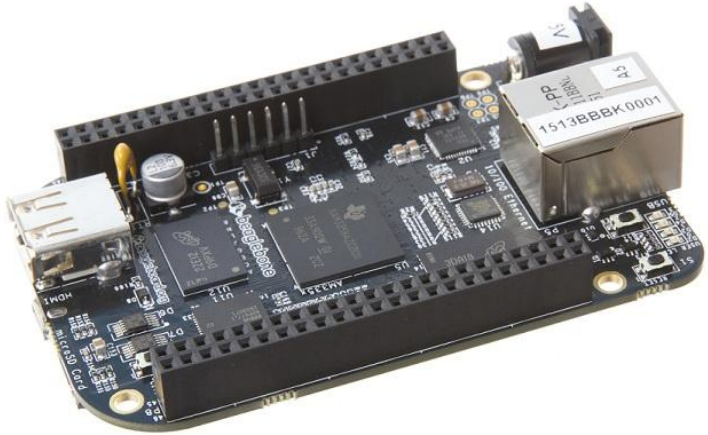
IoT devices are everywhere...



Many different devices...

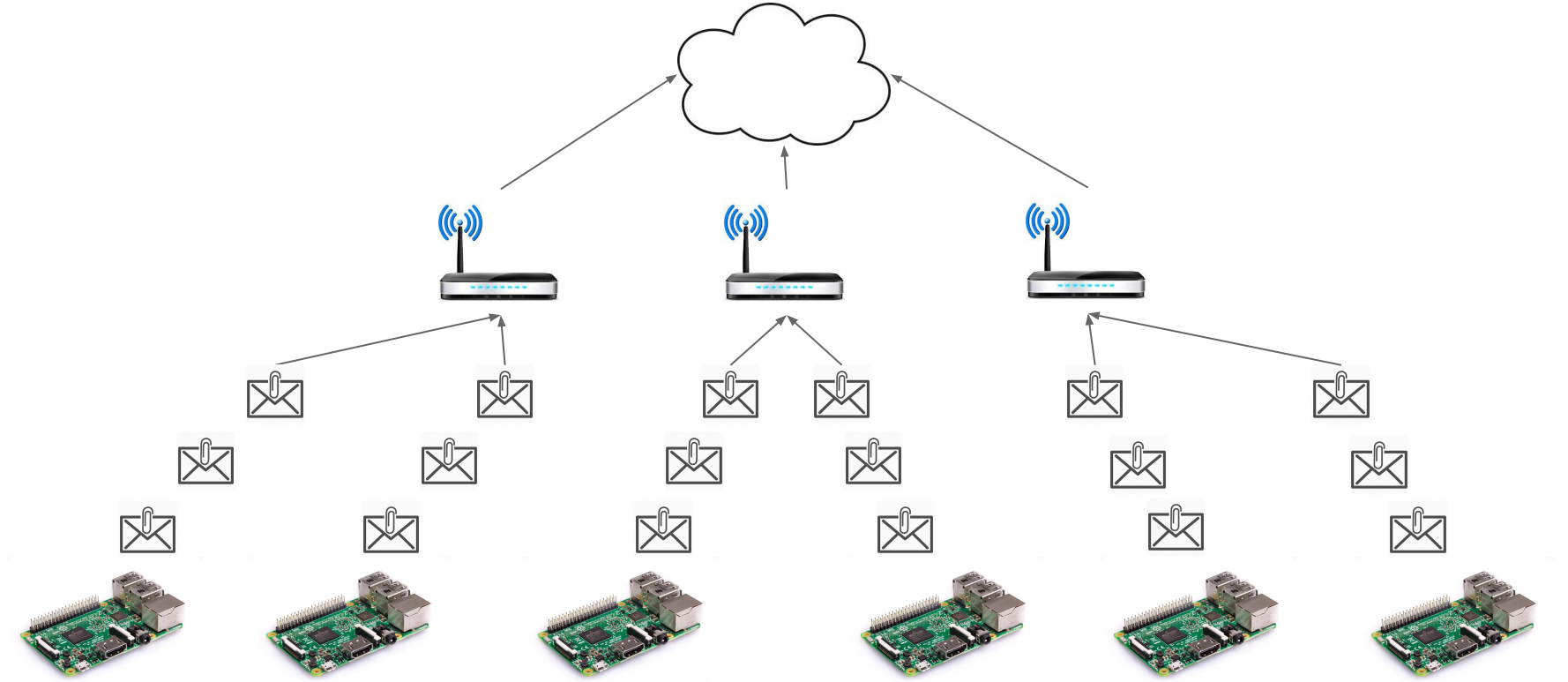


Raspberry Pi



BeagleBone

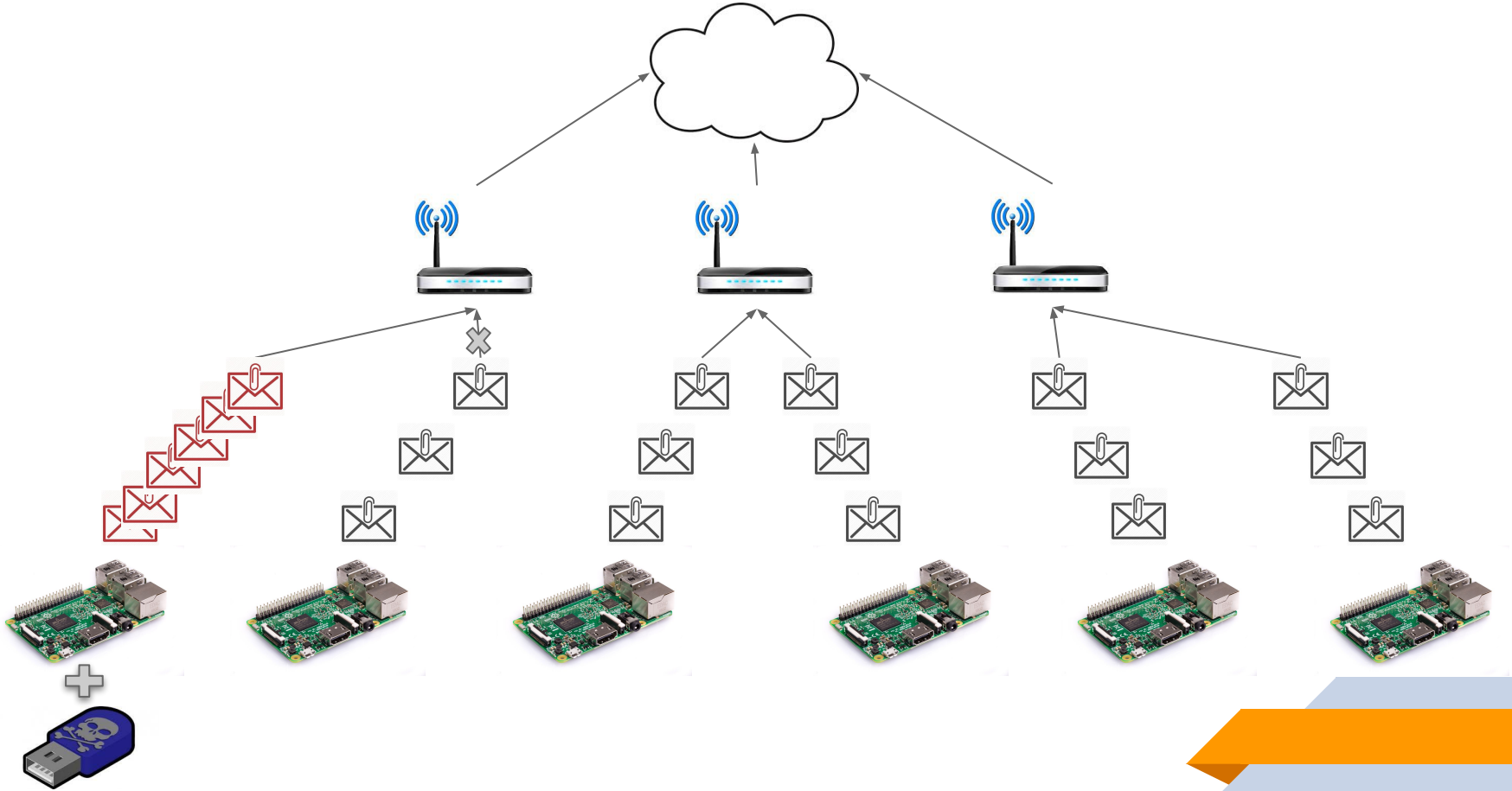
IoT network architecture



IOT NETWORK PROBLEM #1

- A hijacked device starts disrupting the network with bogus information.

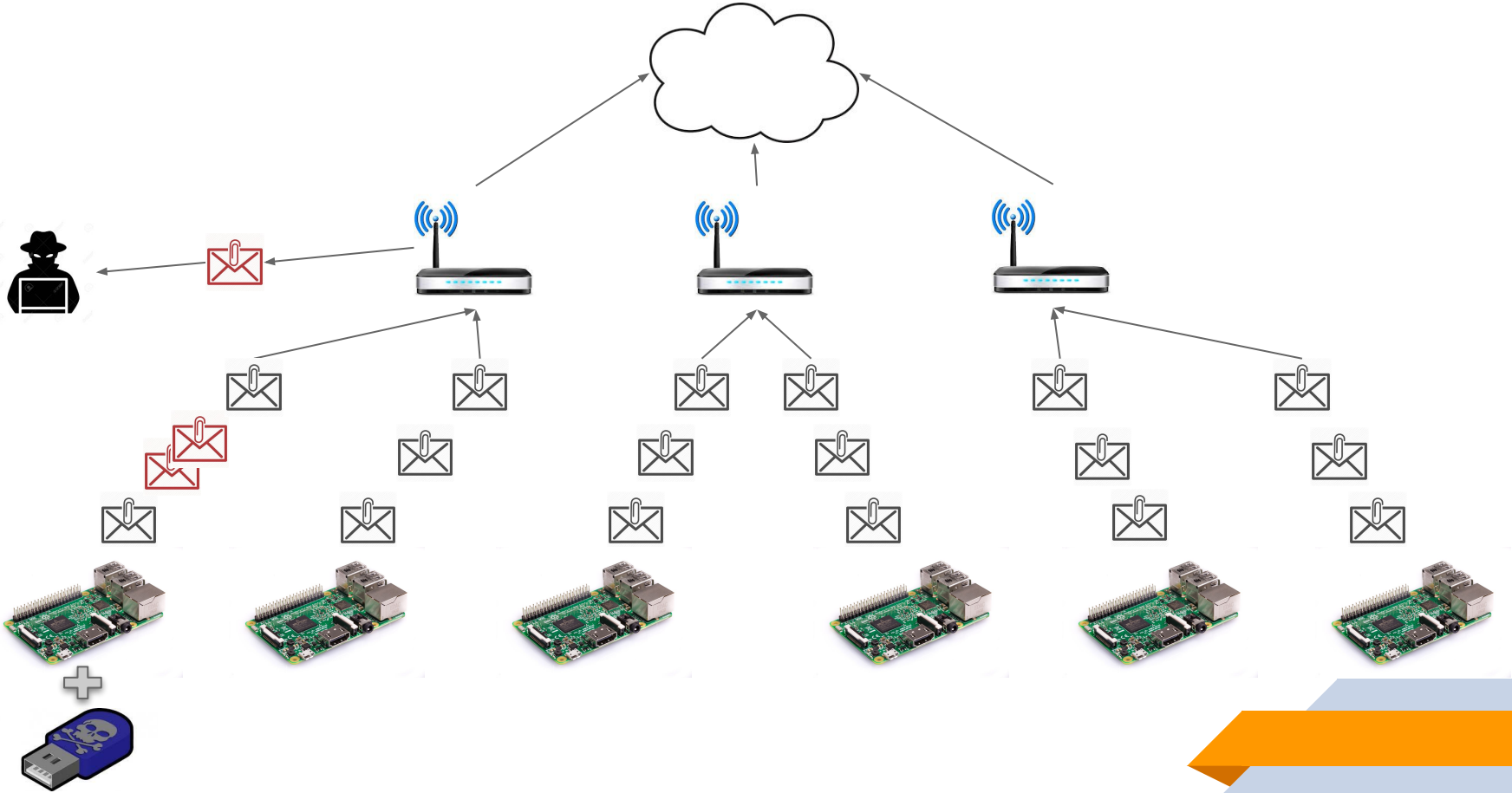
IoT network problem #1



IOT NETWORK PROBLEM #2

- A hijacked device sends confidential information to the attacker.

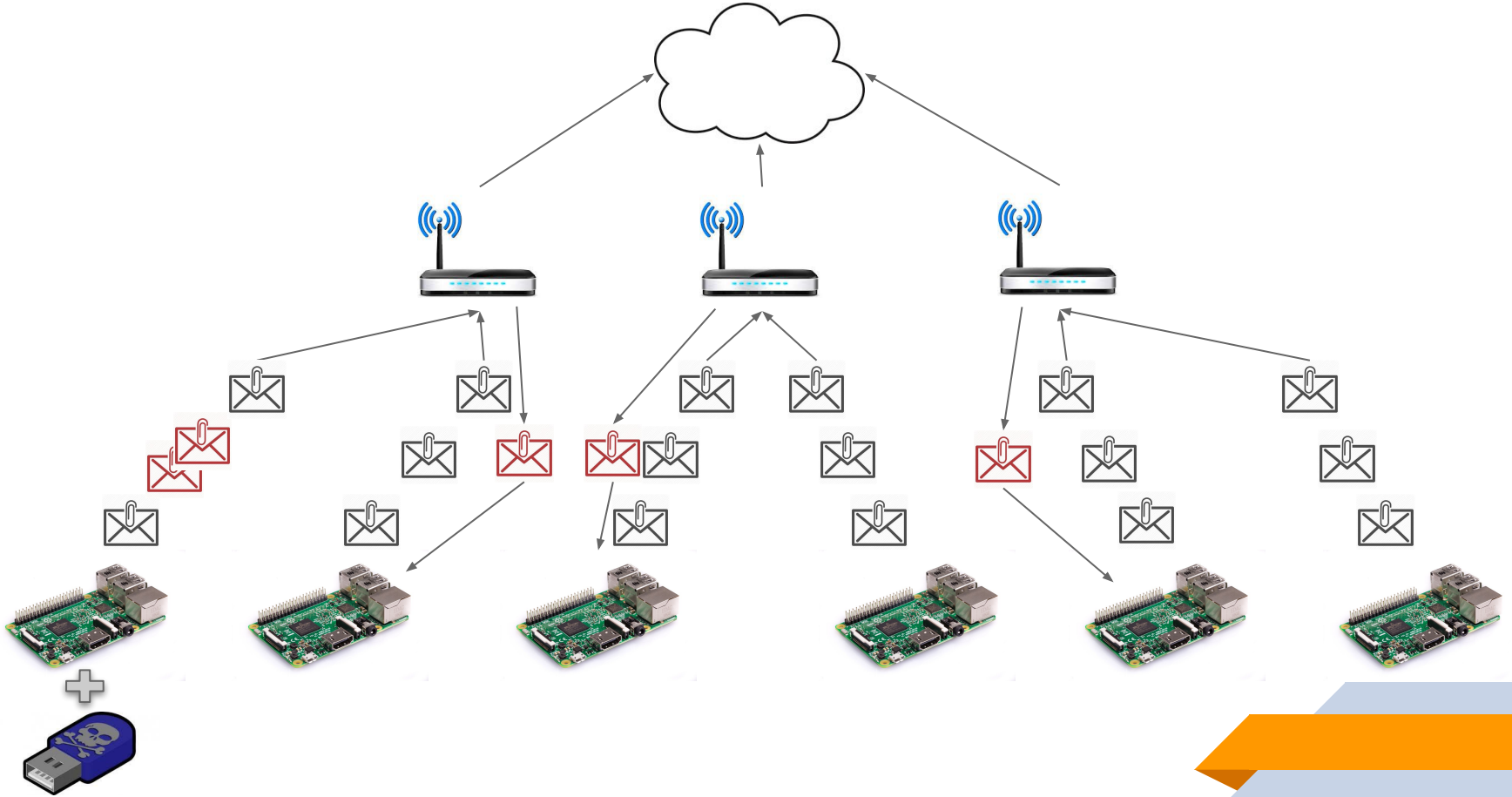
IoT network problem #2



IOT NETWORK PROBLEM #3

- A hijacked device tries to obtain information and/or compromise other devices.

IoT network problem #3




How can we solve
these problems?

POSSIBLE TECHNIQUES

- Monitor the duration of silence periods.
- Monitor upload/download packets size, its ratio and its information.
- Monitor the IPs a device communicates with.

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