

Benefits of the ICN Architecture in Smart Buildings

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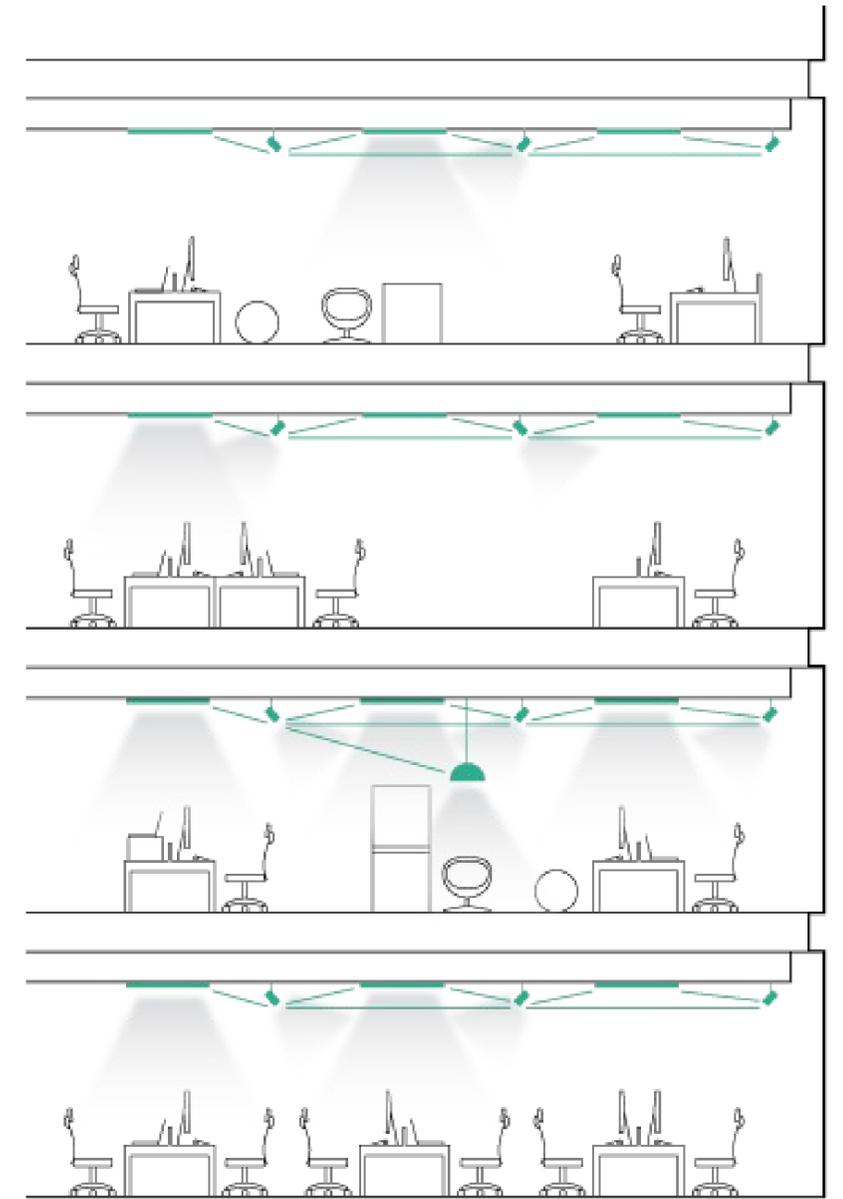
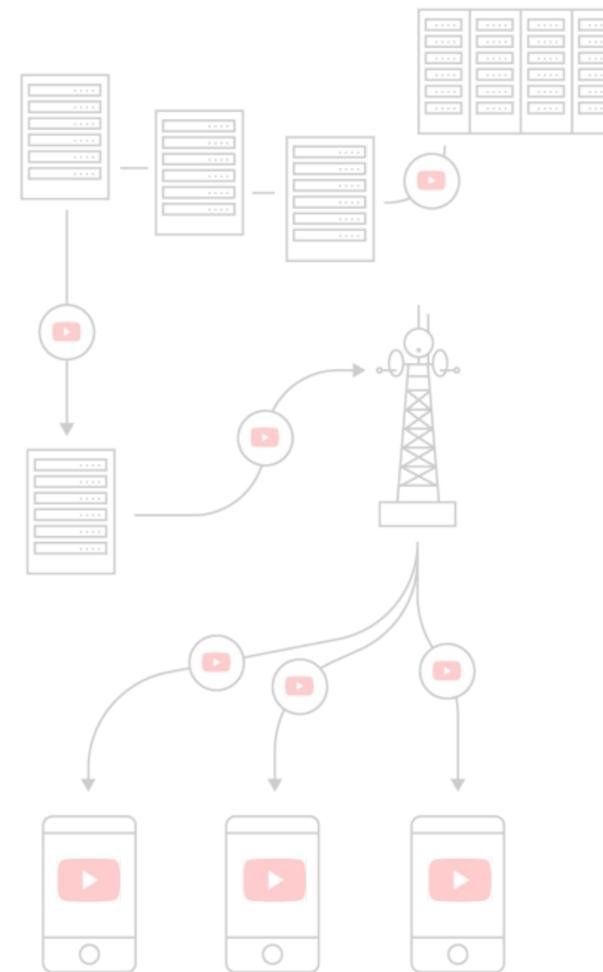
Chair of the Mesh Working Group at Bluetooth SIG,
CTO at Silvair

IETF/ICNRG, 103, Bangkok
November, 2018

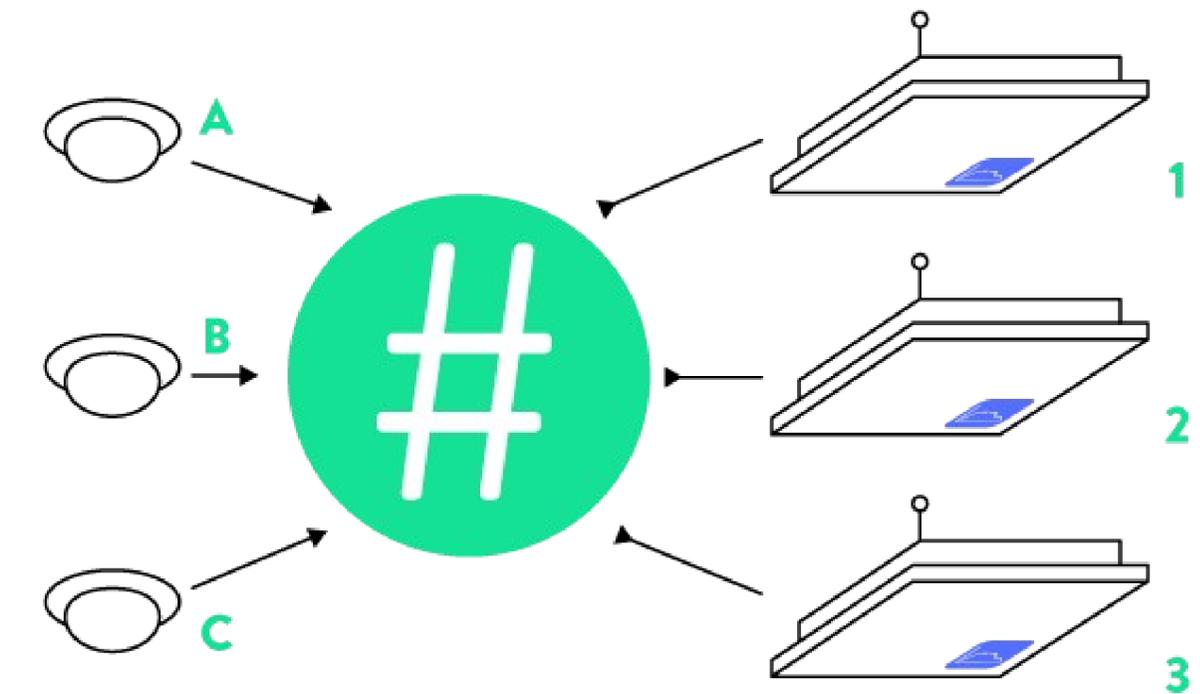
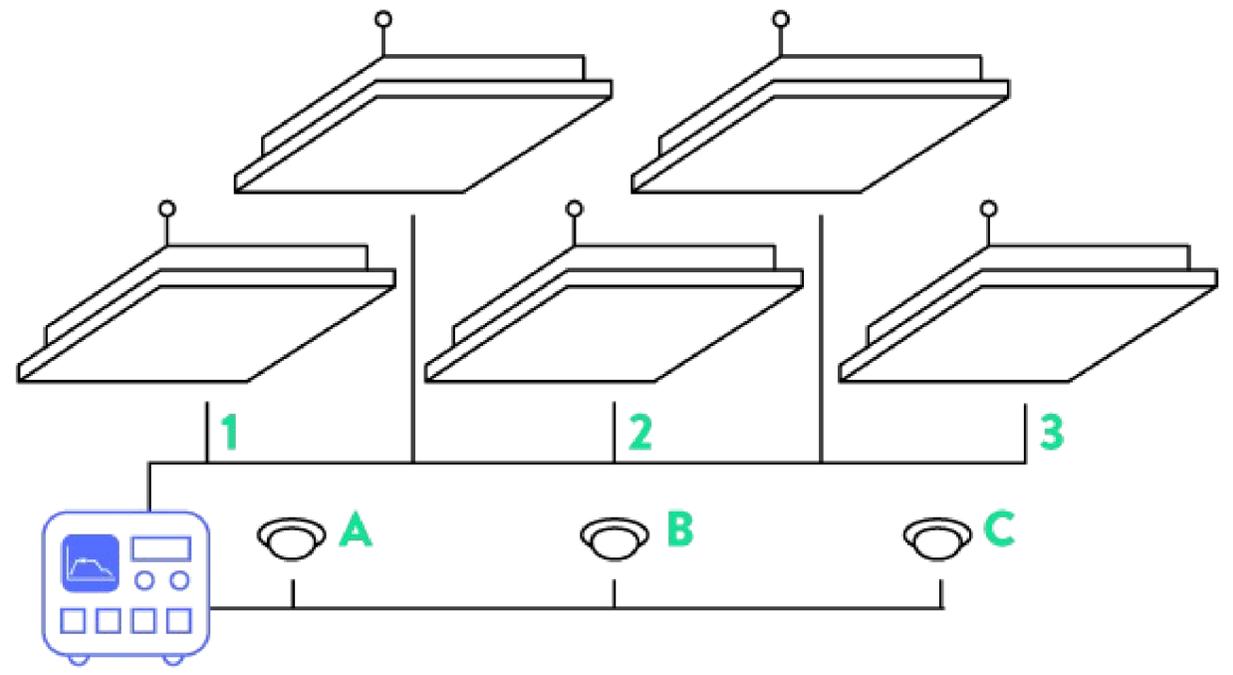
Information-Centric Networking: the architecture for next generation networks

The ICN concept is being developed for the Internet, but is very applicable to the IoT and **smart buildings in particular**.

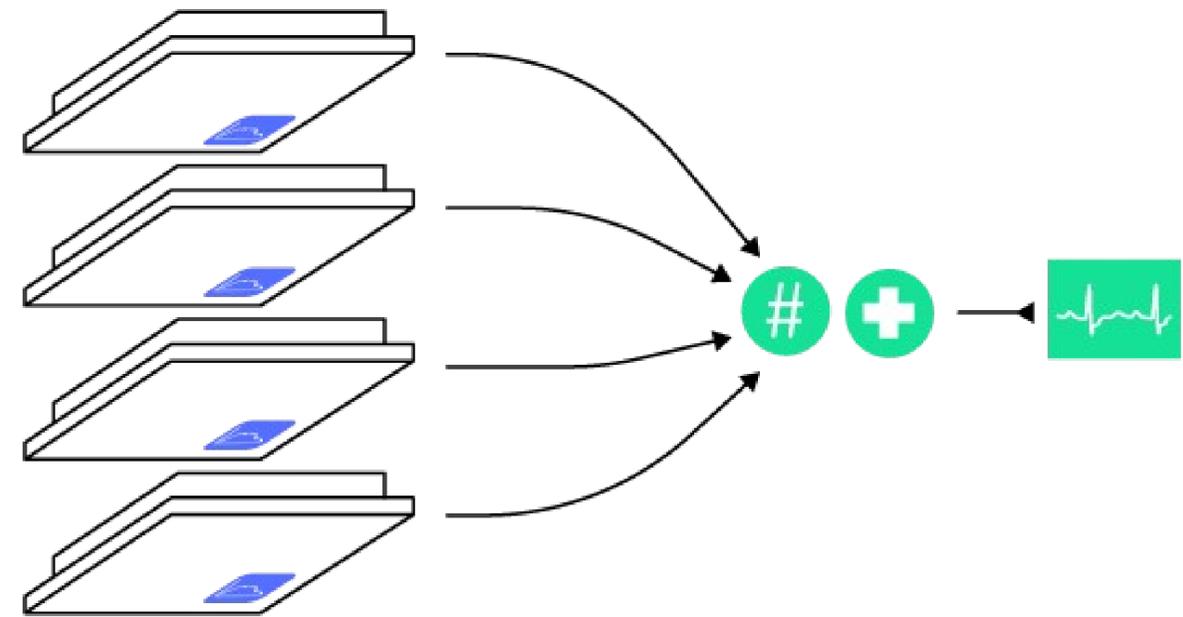
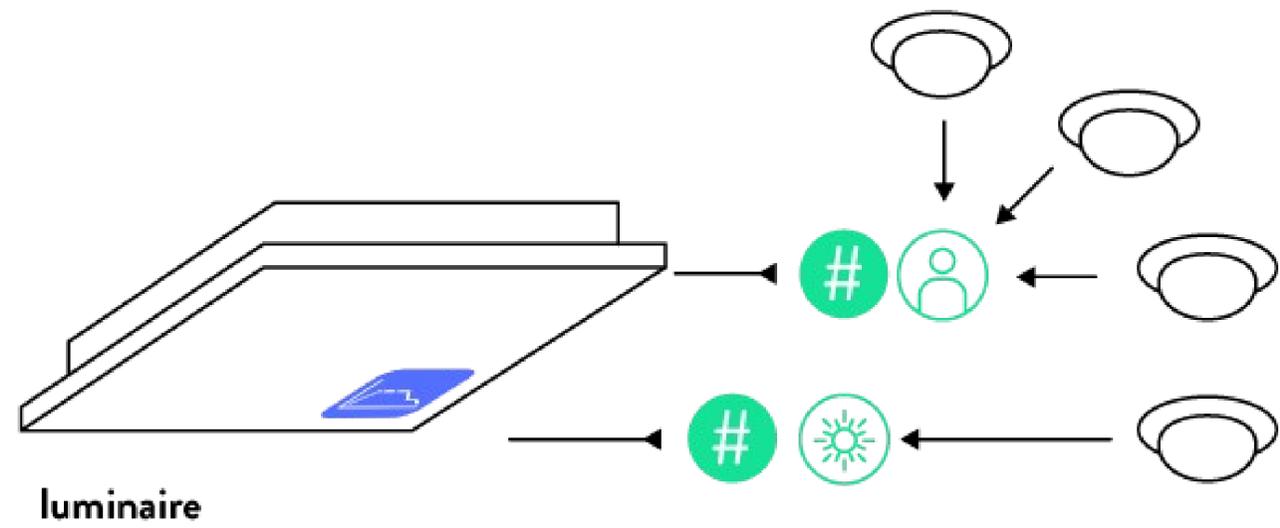
- named & addressable data as the focal point
 - simplified configuration
- decentralized architecture
 - scalability and no points of failure
- multicast communications
 - the foundation
- publish – subscribe paradigm
 - for relationships among devices



ICN lighting controls: the concept

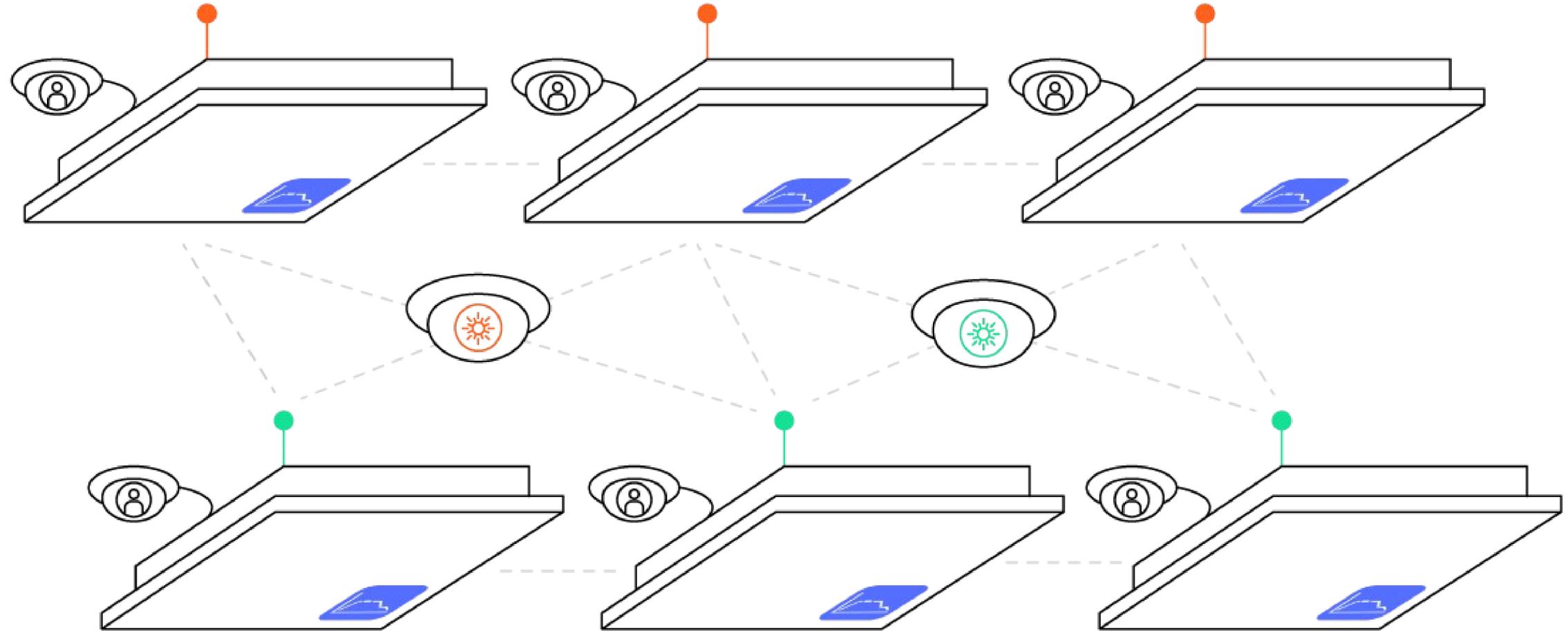


ICN lighting controls: examples



ICN lighting controls: benefits

- simple
- scalable
- reliable



Qualified Bluetooth mesh is here

- Adopted and publicly available since 2017. After Audio and Low Energy, Mesh is the 3rd Bluetooth revolution
- Close to 100 qualified, interoperable products are available now
- Includes a strictly defined, yet very flexible application layer, focused on Sensing and Lighting
- Pub/Sub, concurrent multicast and distributed control architecture help achieve simplicity, scalability and reliability: the three pain points of wireless lighting control systems



Silvair, Inc.

Bluetooth Stack for Embedded Systems - MESH profile

D036228

Silvair, Inc.

Silvair Mesh Models

D036327

99282

N/A

Profile Subsystem

Mesh Model Core 550

26 July 2017

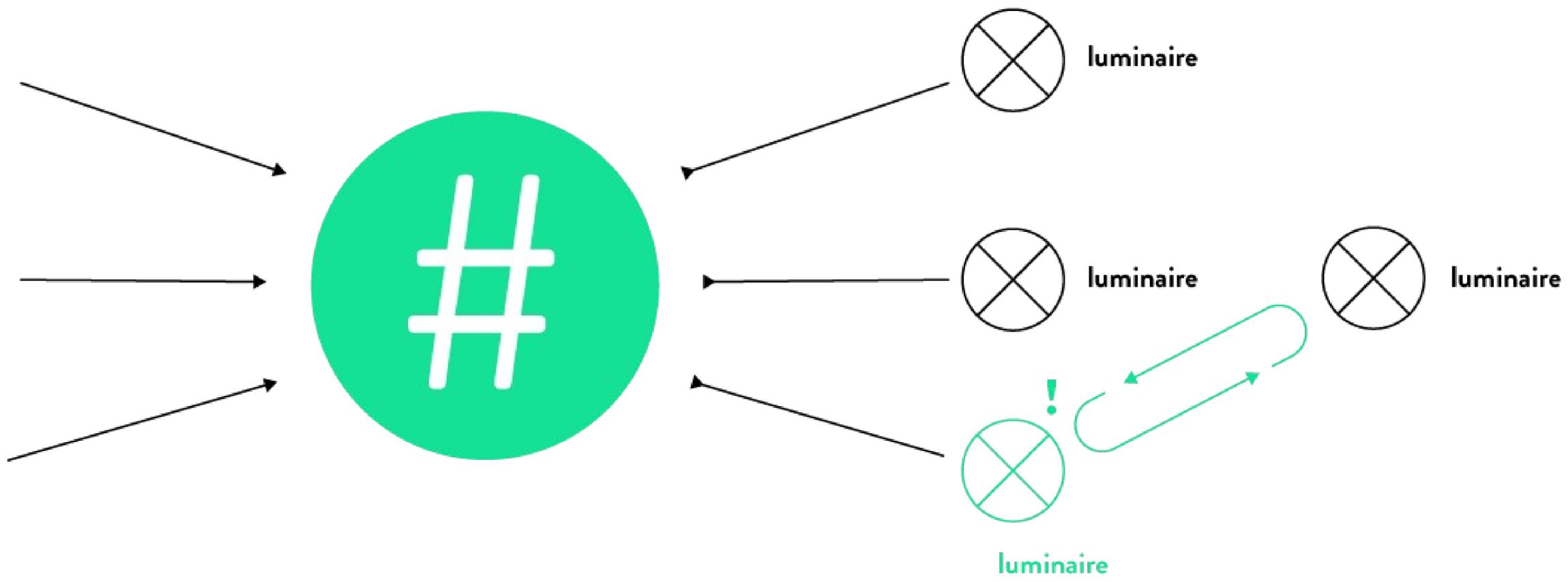
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26 July 2017

v2.x series

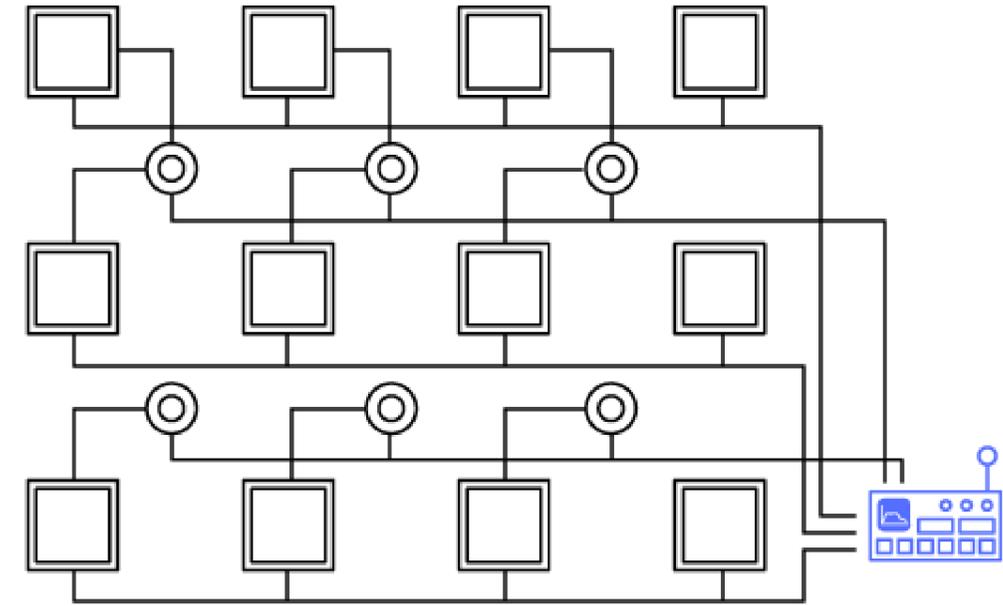
ICN lighting controls: simplicity

- configuration simplicity
- maintenance simplicity



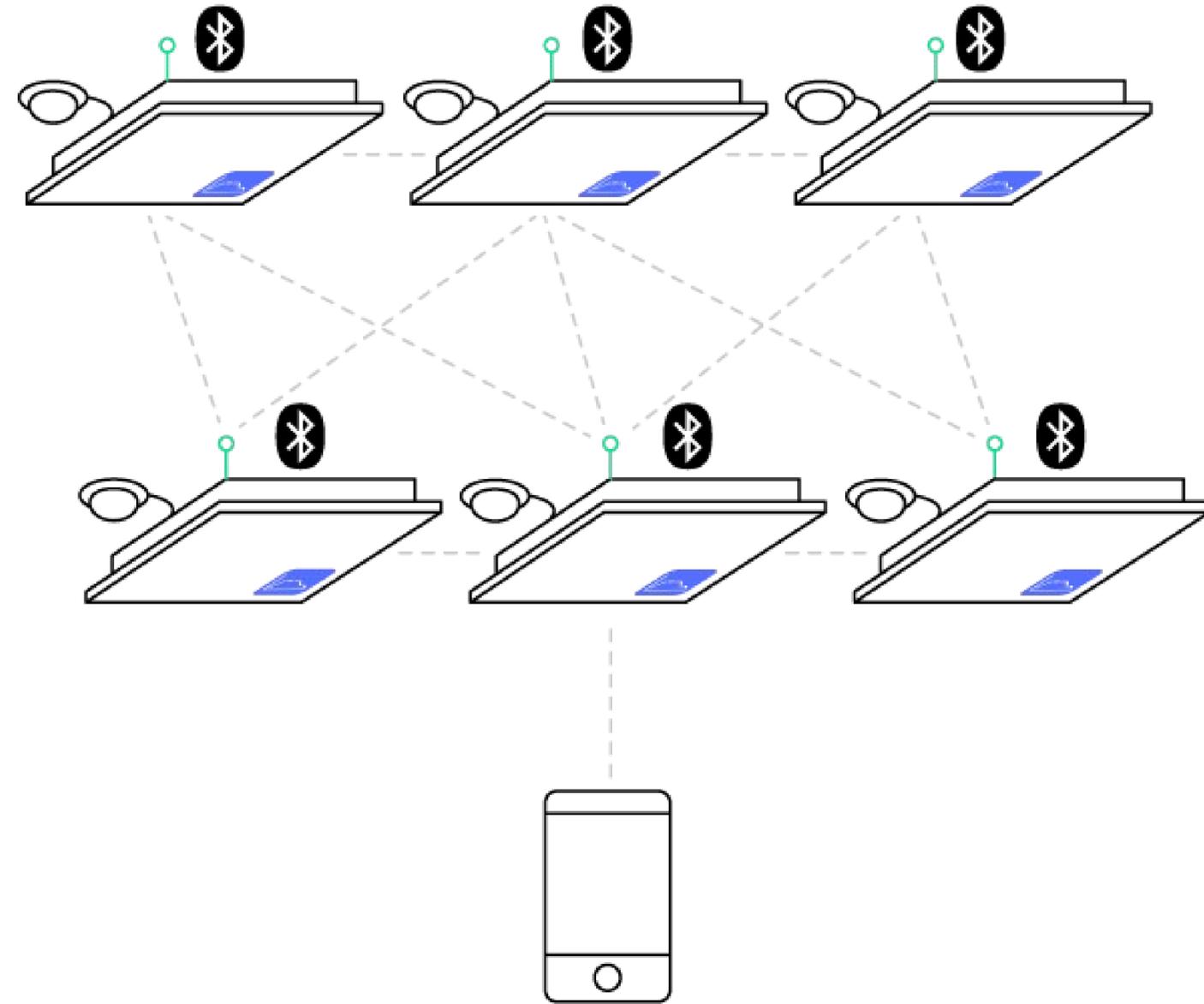
ICN lighting controls: scalability

- no bottlenecks (gateways, hubs, central controllers)
- robust multicasting
- subnets
- ultra-short messages
- high spectral efficiency
- high data transfer rate



ICN lighting controls: reliability

- no single point of failure
- multi-path delivery
- peer-to-peer communication
- controller in every node
- publish / subscribe paradigm



Questions?

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