

BubblyNet®

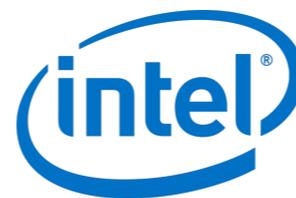
human-centric building control

Technological Advantages

Open

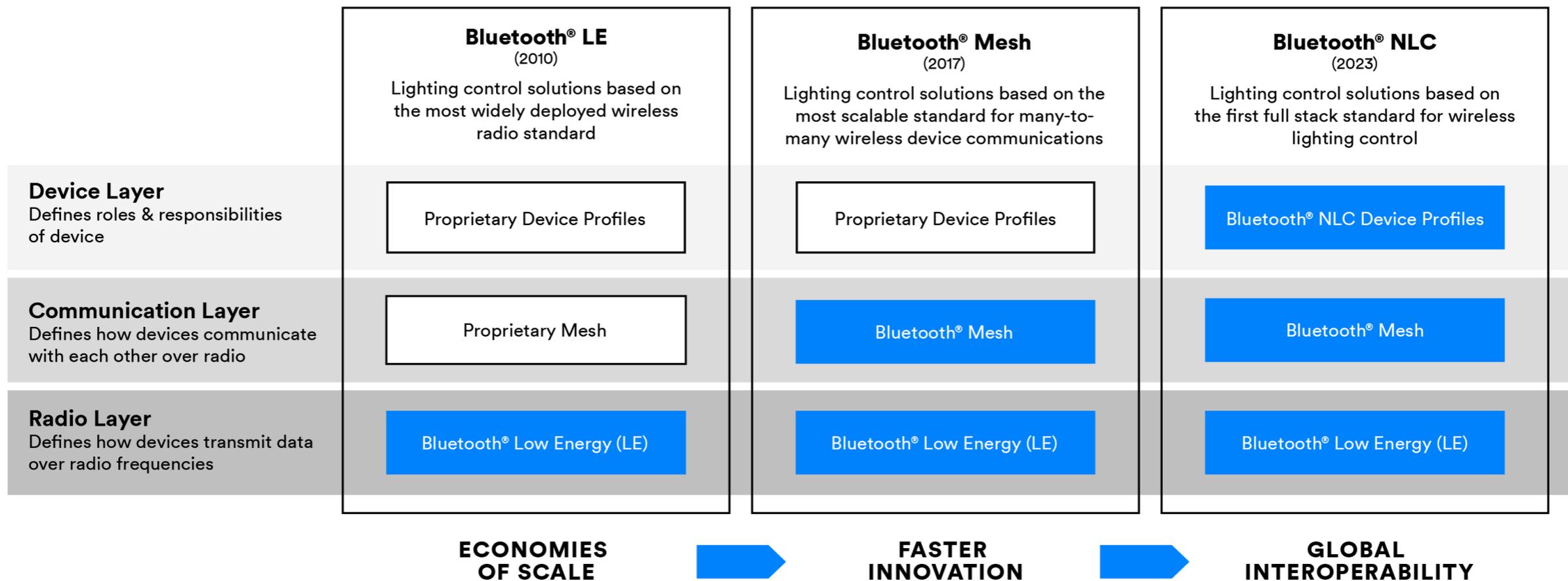
It is based on open protocol **Bluetooth NLC**, the world's #1 low-power wireless commercial standard.

Bluetooth NLC is contributed by thousands of developers and some of the most prominent tech companies such as



State of the Art

The Evolution of Bluetooth® Lighting Control



The standard is continuously improving with new functionalities and greater interoperability.

Interoperable

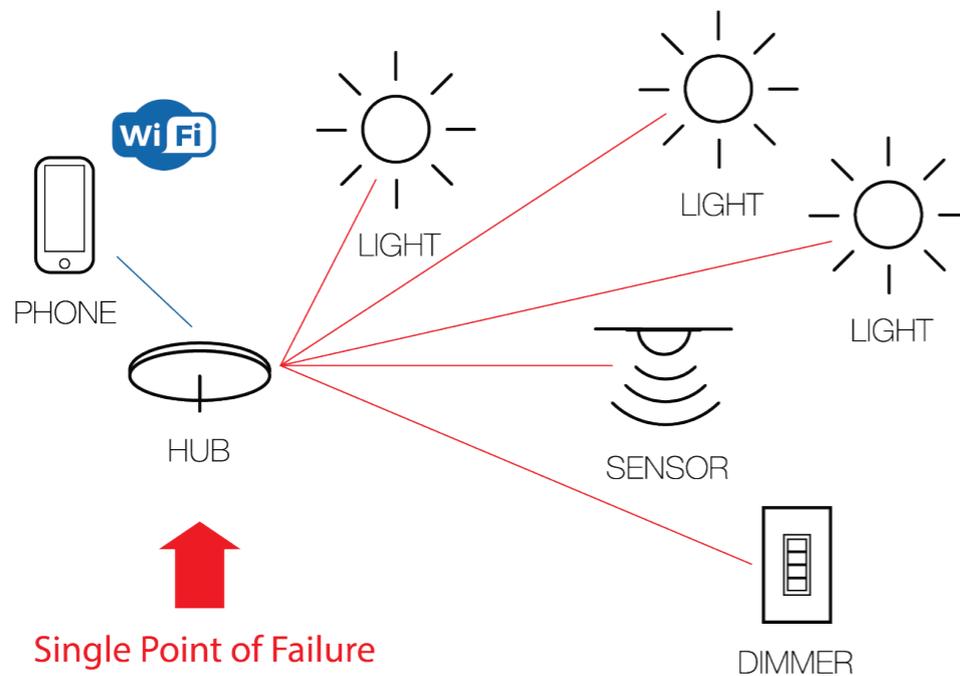
Bluetooth Mesh/NLC, is used by a growing number of lighting companies.



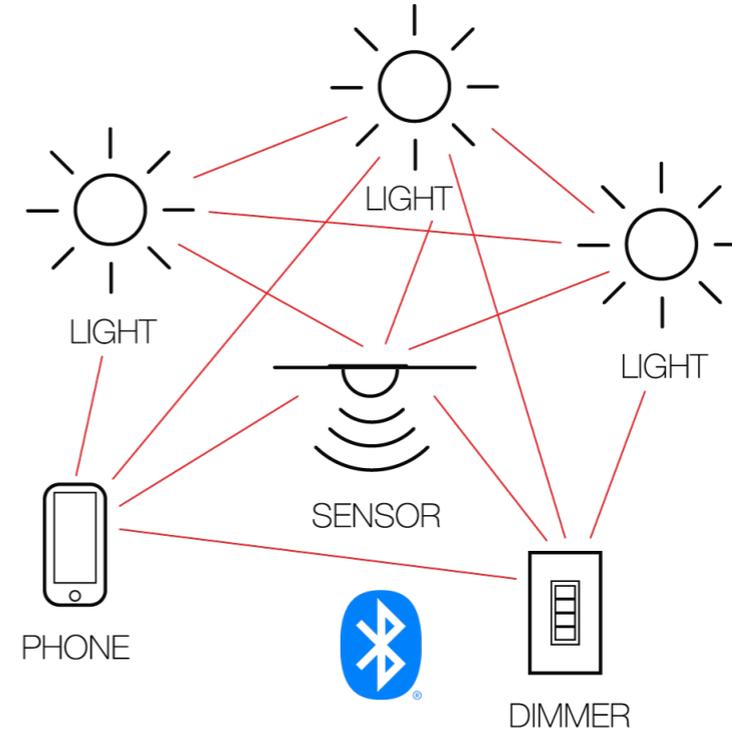
No Single Point of Failure

A BubblyNet installation doesn't have a single device from which all others depend for proper functioning

"Others" Mesh



BubblyNet Mesh

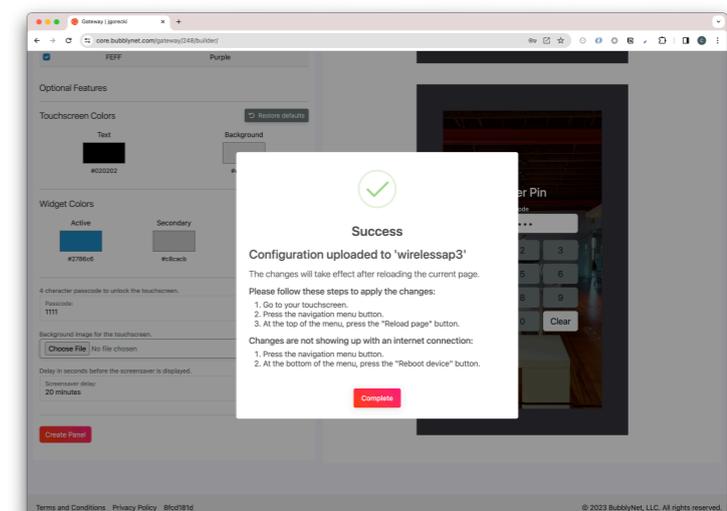


Future-Proof

Quarterly releases for both iOS and Android app add new features and UI improvements.

Device's firmware can be updated Over the Air, adding new functionalities as they get released.

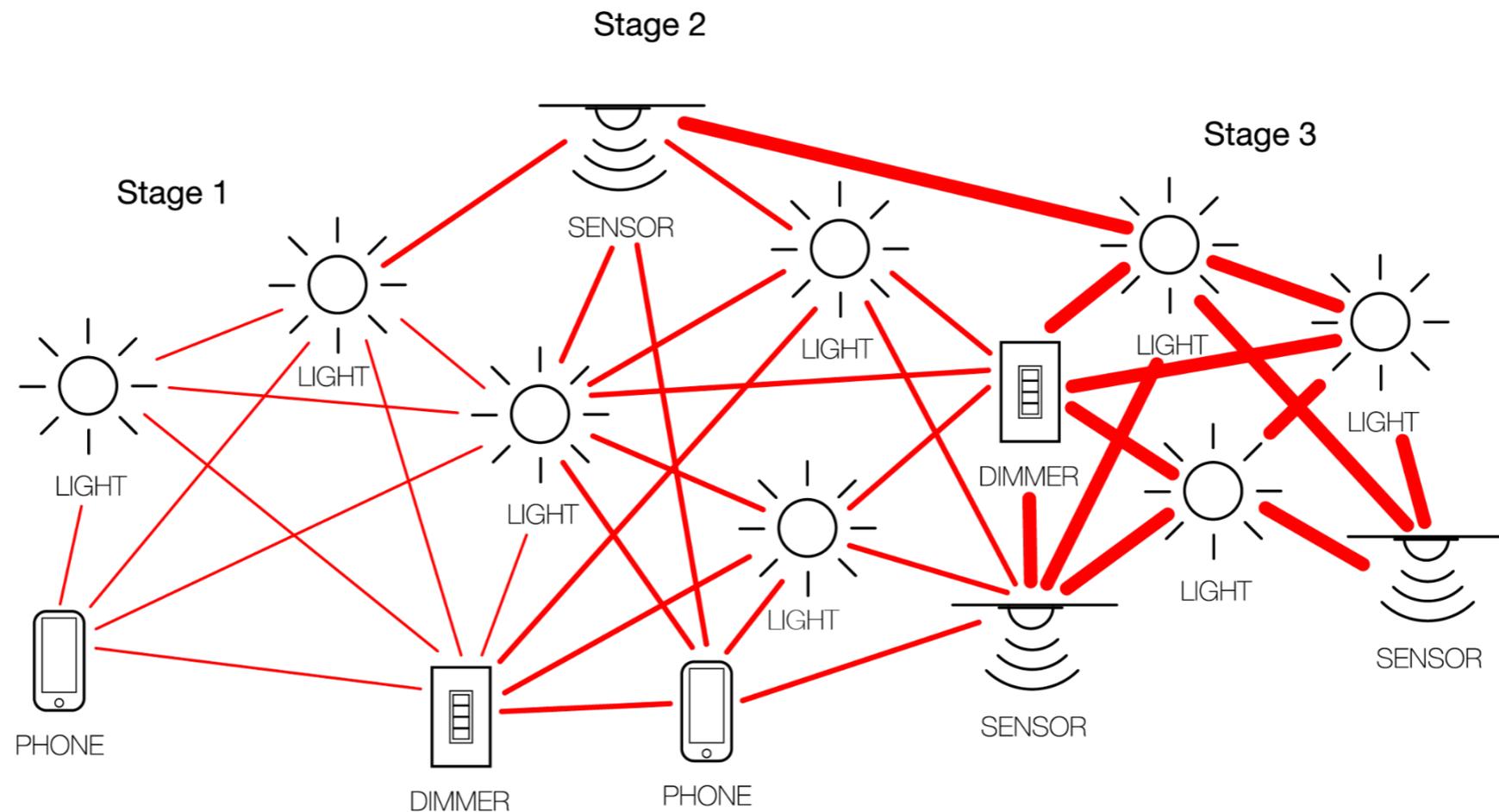
Gateways and Cloud integration can be downloaded as well.



Scalable

Since there is no central control “running out of addresses” adding sensors, switches or additional devices has never been simpler.

The more devices on the project, the more robust the system becomes.



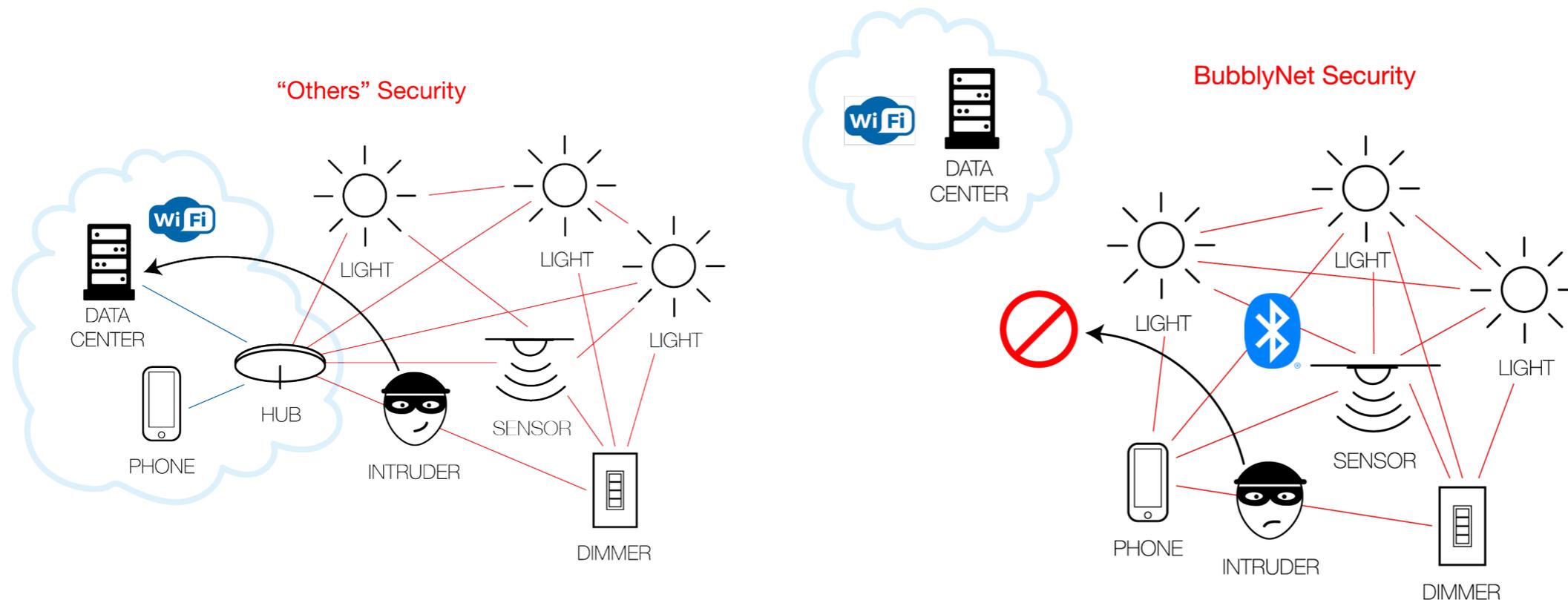
Commercial Grade

BubblyNet is a true commercial grade solution which allow to mesh up to 32,000 elements per network.



Air-Gap Secure

BubblyNet does not require a connection to WiFi or Internet and can be deployed 100% Air Gap. There is no connection between the lighting/building network and the business network so no intruder can use the lighting system to access critical information.



Multi-level Security

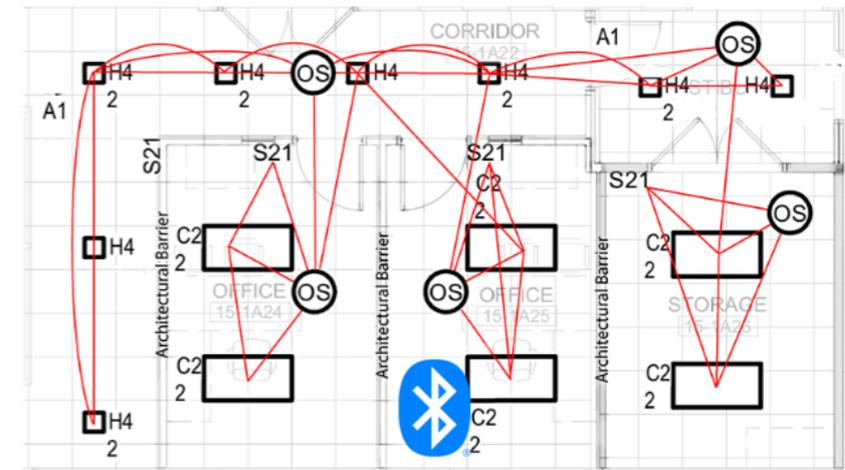
- All Bluetooth mesh messages are encrypted and authenticated.
- Network security, application security, and device security are addressed independently
- A Bluetooth mesh network can be divided into subnets, each cryptographically distinct and secure from the others.
- Security keys can be changed during the life of the Bluetooth mesh network via a Key Refresh procedure.
- Message obfuscation makes it difficult to track messages sent within the network
- Bluetooth mesh security protects the network against replay attacks.
- Nodes can be removed from the network securely, in a way which prevents trashcan attacks.

Self-Healing

The BubblyNet control signal is broadcasted and hops from device to device, “going around” architectural barriers. Hops average 0.006 seconds and do not generate noticeable latency.

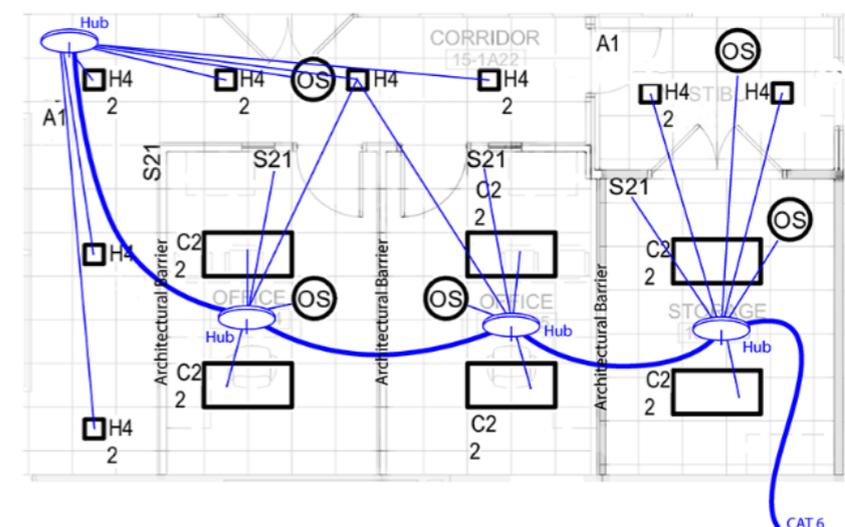
It is a “Self Healing Network”; if one device fails the signal automatically re-routes bypassing the failed element.

BubblyNet



No Hubs Required

“Others”



4 Hubs Required