



Alliance

IQRF Meetup 2021

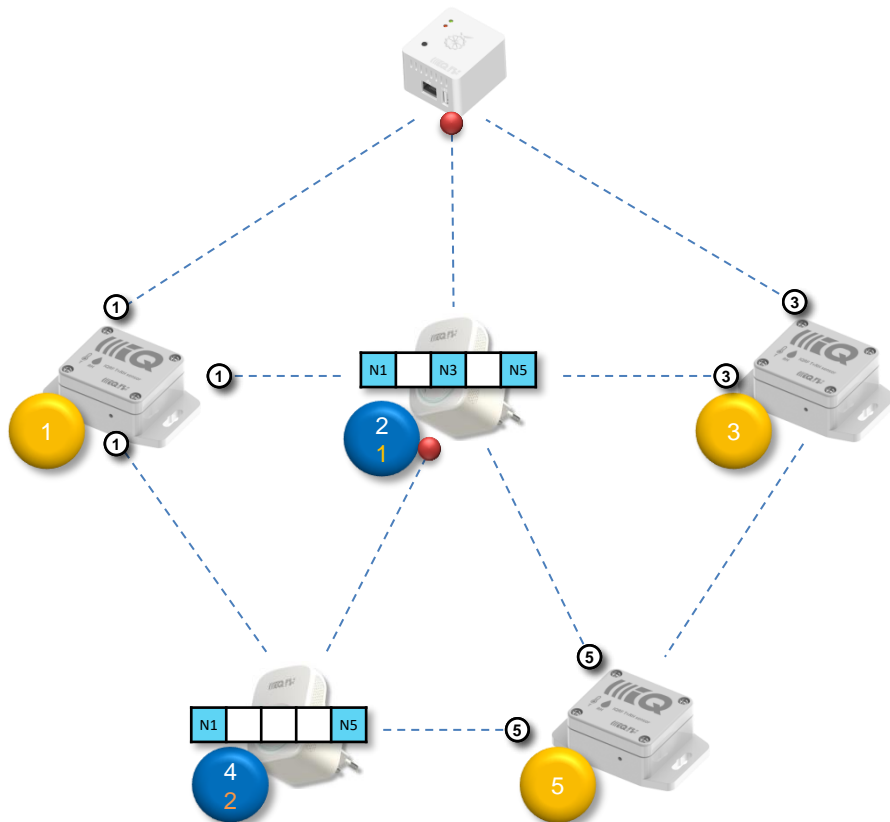


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IQRF Alliance, CTO

Latest IQMESH Communication Options

- Beaming
- Offline FRC®
- Local FRC®
- OTK Bonding using IQuip

DPA 4.16 News



PURPOSE

Efficient data collection from battery operated sensors

PHASES

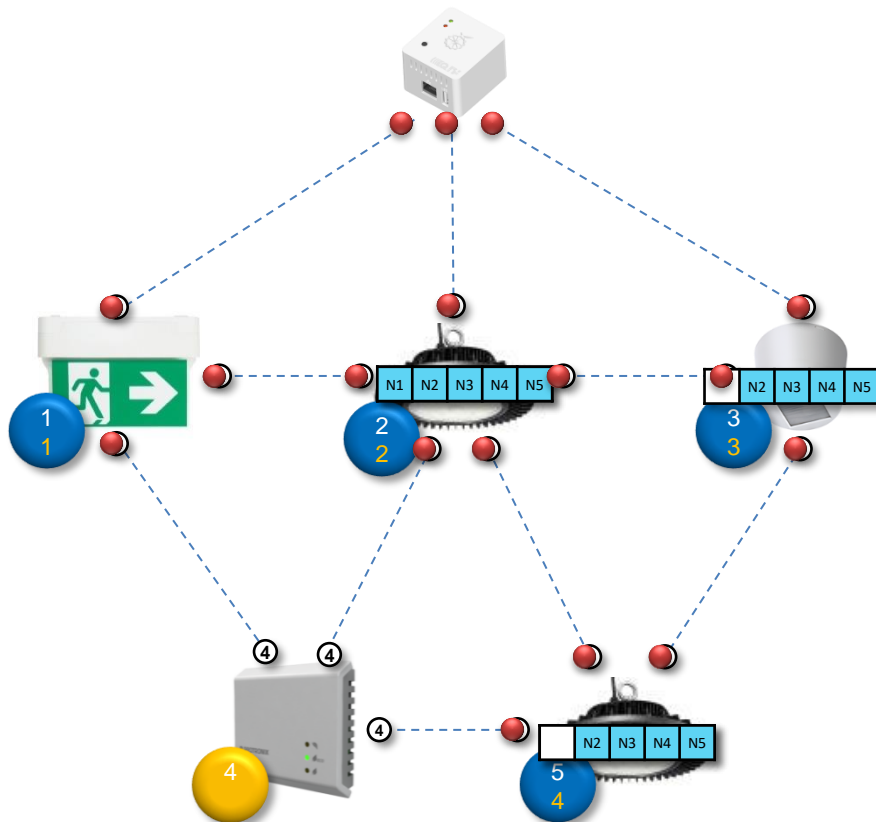
1. Beaming with a given period
2. Send FRC request
3. Collect FRC values on the way back

FEATURES

- Minimal power consumption of battery powered sensors
- Beaming of all sensor values
- FRC used for efficient data collection from aggregating repeaters

SECURITY

- Network key
- AES-128



PURPOSE

Data collection / acknowledged control of multiple nodes

PHASES

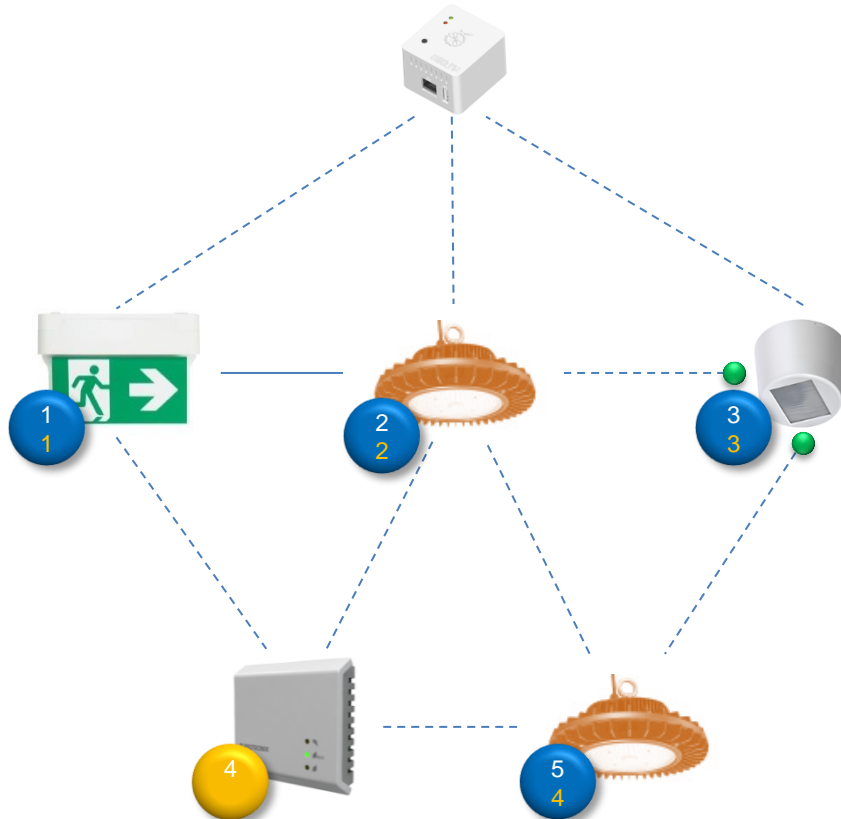
1. Broadcast FRC Request
2. Send FRC values locally (skipped during Offline FRC)
3. Collect FRC values on the way back

FEATURES

- Send up to 30 bytes
- Collect 2b, 1B, 2B or 4B FRC values
- Selective FRC
- Acknowledged broadcast

SECURITY

- Network key
- AES-128



PURPOSE

Asynchronous local control from network devices

- Controllers (buttons, motion sensors, switches, ...)
- Actuators (lights, blinds, ...)

PHASES

1. Broadcast FRC Request with bitmap of nodes to act
2. (Perform DPA request embedded in FRC Command)
3. Each node returns FRC value

EXAMPLE

- Control of up to 31 nodes through DALI commands and receive DALI responses

SECURITY

- Enabled at specific actuators only
- Actuator's FRC whitelist (list of controllers / commands / ...)

- Purpose: **easy and safe bonding** of (already installed) devices w/o need of Coordinator closeness and AccessPassword knowledge
- Tool: **IQuip** device with NFC transceiver
- Process:
 1. IQuip activation
 2. Prebonding individual Nodes
 3. Finalizing bonding by Autonetwork



- New APIs
 - FRC Aggregation: *DpaApiAggregateFrc*
 - OTK Bonding: *DpaApiSetOTK*
 - I²C Master: *DpaApil2Cinit*, *DpaApil2Cstart*, *DpaApil2Cwrite*, *DpaApil2Cread*, ..., *DpaApil2Cstop*, *I2Ctimeout*, *I2CwasTimeout*
 - Sleep: *DpaApiSleep*, *DpaApiAfterSleep*
- Upcomming DPA 4.17
 - IO Peripehral discarded at Coordinator
 - Build-in support for OTK Bonding
 - Bug fix 😊



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Thank you!

