ROLL working group

draft-vanderstok-roll-mcreq-01

Multicast Requirements for LLN in Buildings
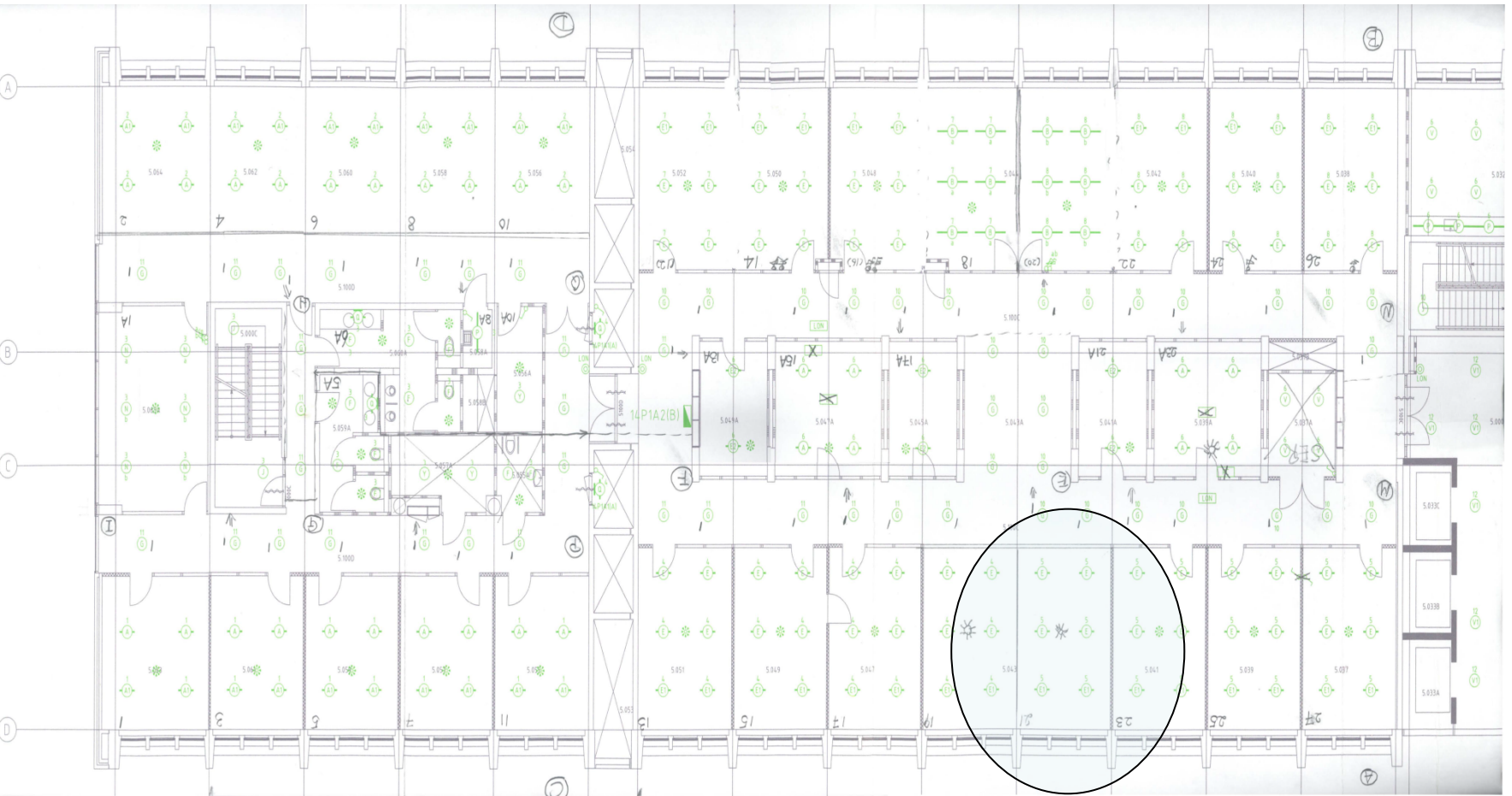

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Multicast in Building Control

Multicast purposes:

1. Sending messages with bounded delay to set of (nearby) receivers (3-20)
2. Service discovery (mDNS) for stand-alone networks (10-100 nodes)
3. Sending messages building wide

Floor plan

Operational characteristics

Central requirements
- Agreement
- Timeliness (200 ms)

Dense network: node every 30 cm
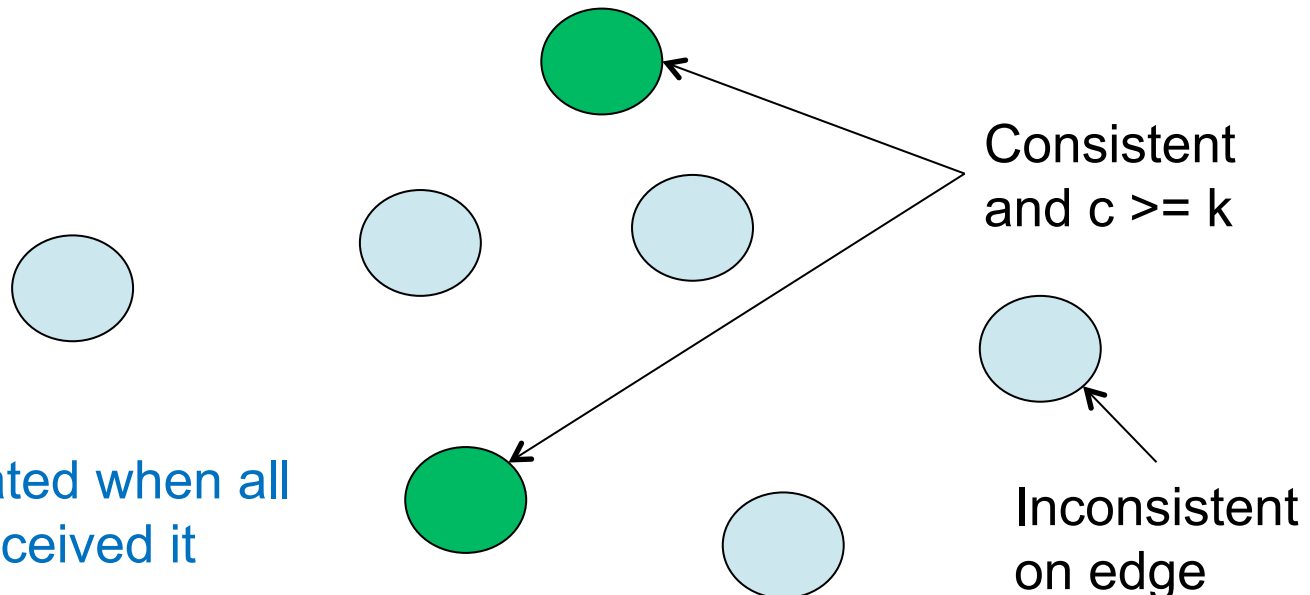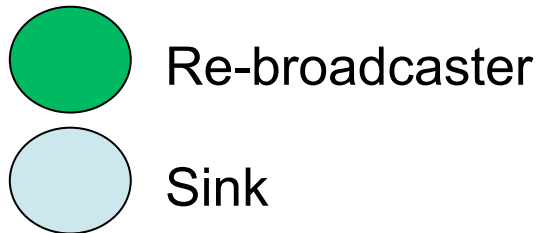In general multicast ranges over whole office (6 m)

During installation, network is tested per stand-alone office(s)
here mDNS is needed.

Reduction of interference

Due to rebroadcasting, interference between re-broadcasters
=> timeliness not met

Reduction of interference

- Select subset of nodes as re-broadcasters (subset of routers)
- Limit propagation of multicast over network

Re-broadcaster

Sink

Consistent
and c >= k

Caveat:
Last message not repeated when all
re-broadcasters have received it

Inconsistent
on edge