



Alt HAN: TABASC Considerations

April 2019

Background



- Alt HAN provided an overview of the Technology Services solution options to TABASC in March
 - The slides presented are included within this deck
 - The intention was to enable TABASC to ensure the integrity of the technical & business architecture is maintained (action TABASC37/04)
- Alt HAN has agreed to return to TABASC in June to provide an update on the P2P and Shared Solutions (action TABASC40/01)
- TABASC may wish to provide input from a perspective independent of the Alt HAN Forum
- Some of the key solution elements are provided as a prompt

Key Elements



- Visibility of the Alt HAN devices: understood that there are differing solutions, with one being invisible whilst an alternative is GBCS-joined
 - Notable preferences between options?
- GBCS-joined Alt HAN devices: understood that this would be listed on the inventory as an IHD
 - Potential issues for either regular HAN or Alt HAN business processes?
 - Concerns regarding use of the four HAN interfaces to Type 2 devices (CHTS 4.4.2.1)?
- Some or all P2P solutions do not support OTA upgrades
 - Pros and cons vis-à-vis ability to support and potential security implications?
- Long-range pairing
 - Lower frequency & bandwidth solutions – concerns for any business processes?
 - Use of battery Alt HAN devices – synchronising two sleepy devices?
- Others?

Proposed Next Steps



- Following debate & discussion:
 - SECAS to communicate any salient points to Alt HAN project
 - Any that TABASC wishes to feed in immediately (if any down selection is taking place)?
 - Any that can wait until June, when Alt HAN should return to TABASC?

Alt HAN Co Technology Services: Solution Overviews

Presentation to TABASC

Gavin Beresford

Adrian Rudd

18/03/2019



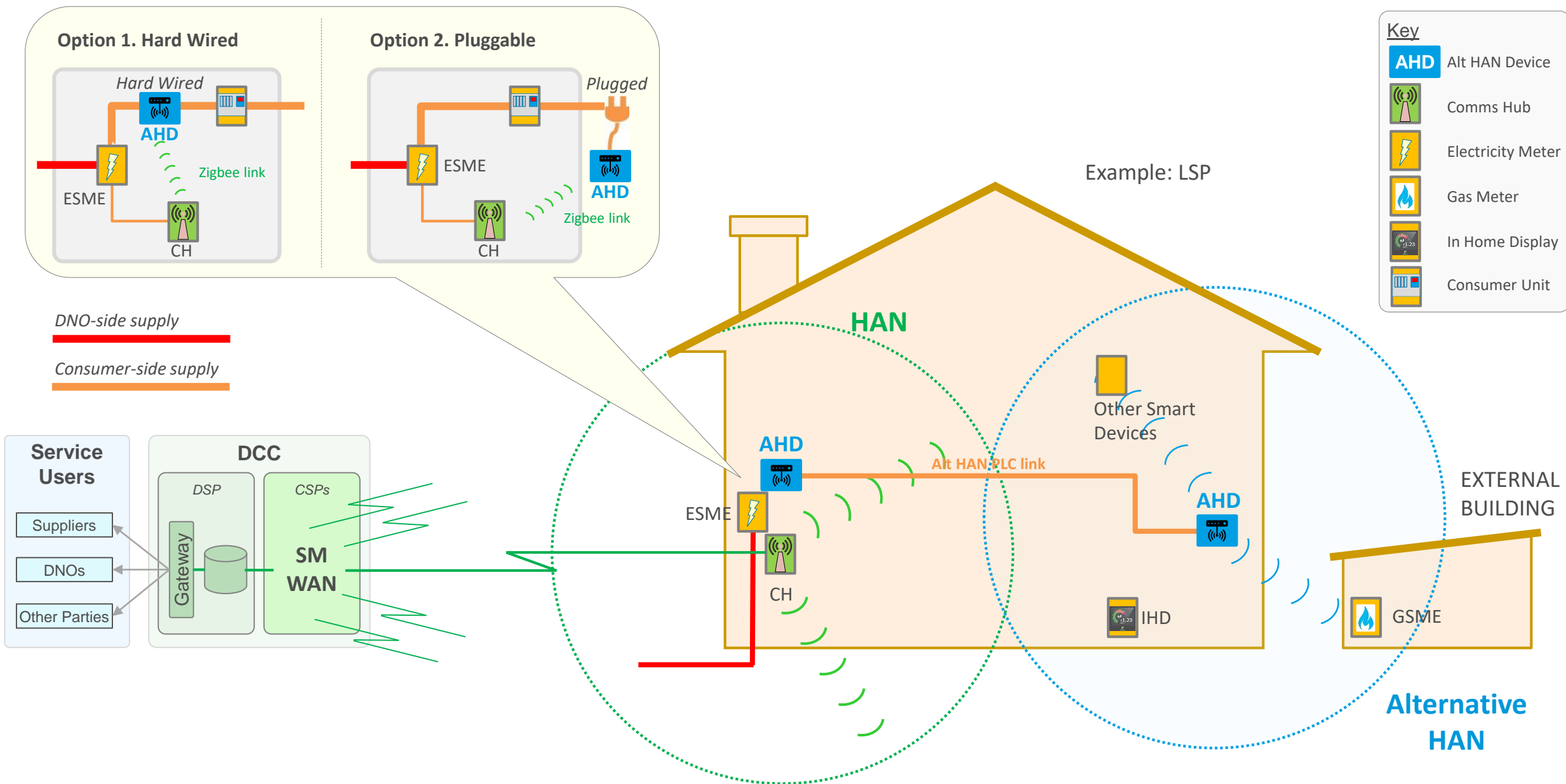
Contextual Architecture



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Contextual Architecture – P2P Solutions



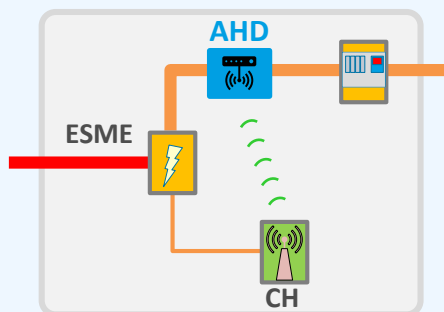
P2P Solutions – Generic Device Types

A number of P2P solution types have been proposed as part of Vendors' solution mixes, all of which fall under the following categories. All can be installed in LSPs or MDUs.

Industrial PLC (hardwired)

- Used when no appropriate socket is near to the Comms Hub (CH)
- Directly wired to ESME terminals on the consumer side
- Communicates with CH only, via Zigbee (2.4GHz)
- Communicates with other Alt HAN Equipment over PLC (various specs.)
- No OTA firmware updates

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Long-range Pair

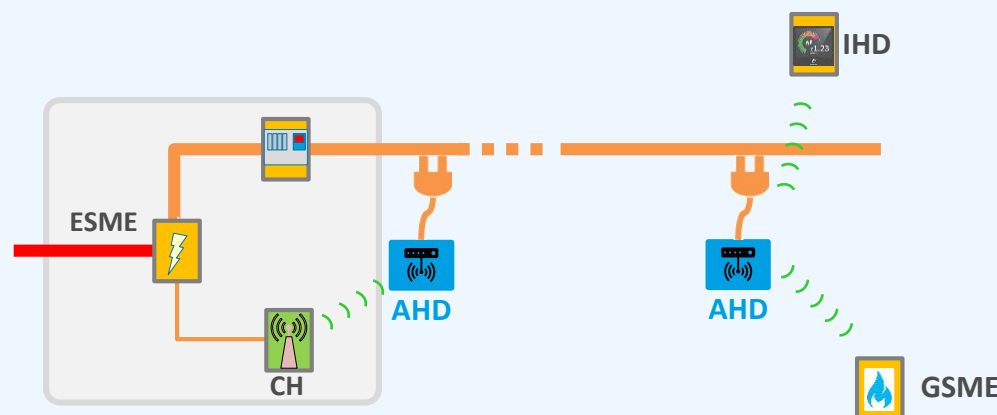
- Used when no appropriate socket is near to the HAN device requiring Alt HAN
- Relies on a pair of devices to provide a radio link that is beyond the range of Zigbee, lower frequency options have been proposed (169MHz, 458MHz)
- Solution options all consist of a mains-pluggable and battery powered pair
- Bandwidth is limited (similar to that of a GSME) to preserve battery life
- No OTA firmware updates



Consumer PLC (pluggable)

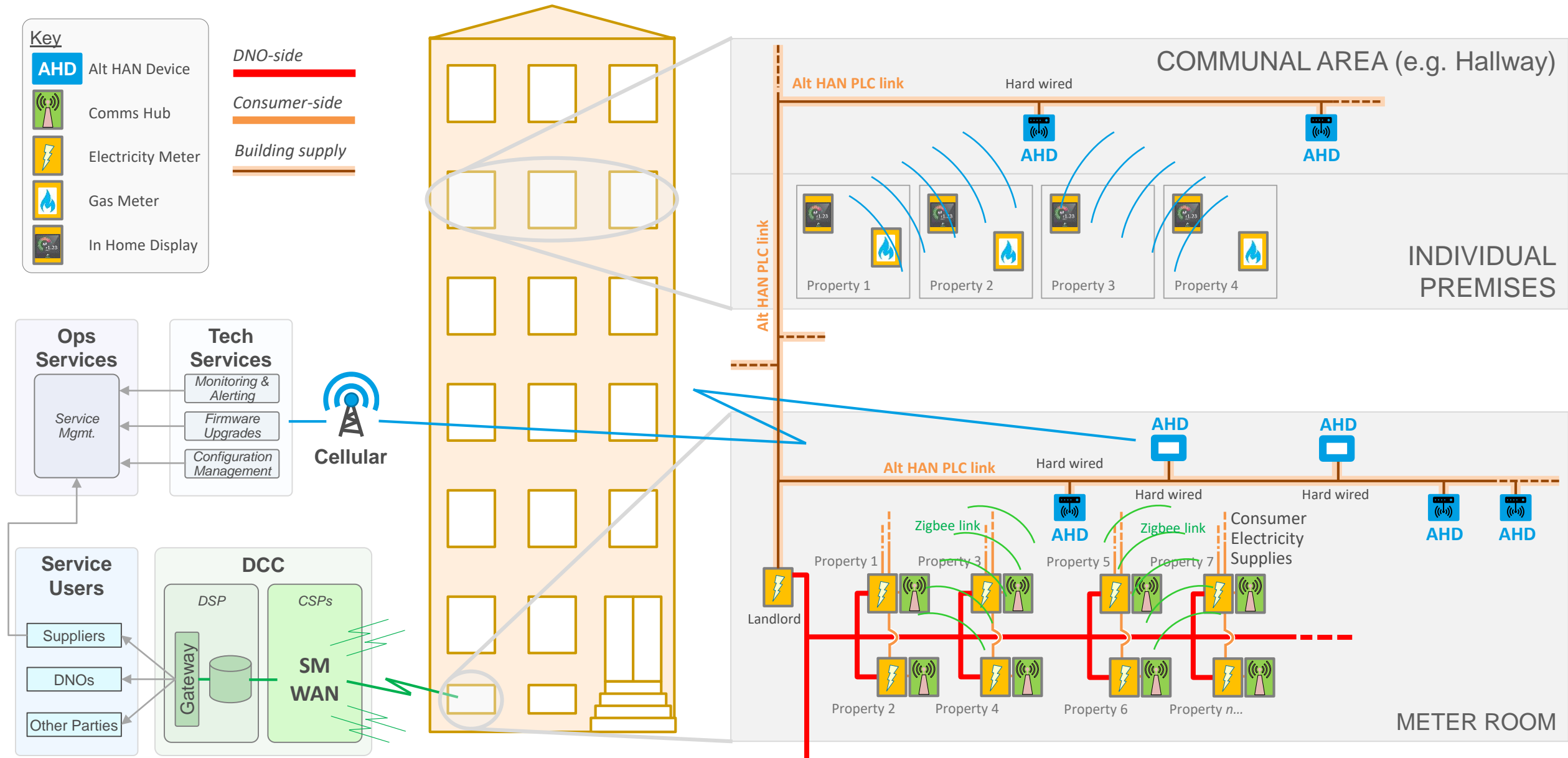
- Used for CH HAN devices near an appropriate consumer socket
- Can communicate with the CH, and other HAN devices via Zigbee (2.4GHz)
- Multiple form factors, but all designs have plug-through capability
- Communicated with other Alt HAN Equipment over PLC (various specs.)
- No OTA firmware updates

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Contextual Architecture – Shared Solutions



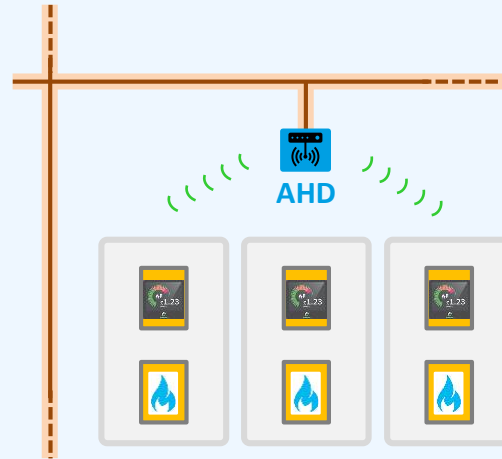
Shared Solutions – Generic Device Types

The proposed shared solutions for MDUs all include the three components below:

Single radio

- Alt HAN device is wired directly to the MDU's shared power supply
- Single-radio devices are placed around the MDU to provide HAN coverage to multiple premises
- Communicate with HAN devices via Zigbee (2.4GHz)
- Communicates with other Alt HAN Equipment over PLC

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Building Management

- One or two (backup) expected to be installed per MDU
- Connect to Vendors' central systems via cellular WAN (3G)
- Responsible for the configuration, coordination, and reporting on other Alt HAN equipment in the MDU
- Manages firmware updates, alerting and monitoring via the Vendors' central systems

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Ops Services

Service Mgmt.

Tech Services

Monitoring & Alerting

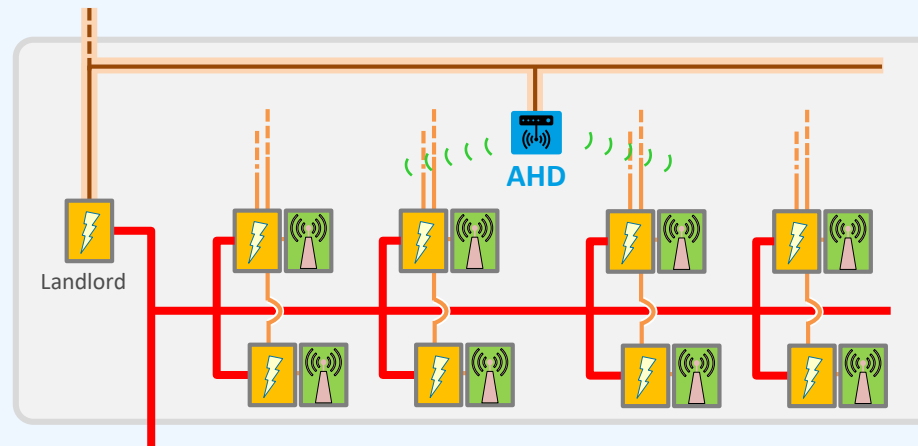
Firmware Upgrades

Configuration Management

Multi-radio

- Alt HAN device is wired directly to the MDU's shared power supply
- Multi-radio devices are placed in meter rooms to provide HAN coverage to multiple GSMEs or CHs
- Communicate with GSMEs and CHs via Zigbee (2.4GHz) using multiple radios
- Communicates with other Alt HAN Equipment over PLC

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Cellular



AHD