UCLL FPP

Key Modelling Concepts – MEA & Demand

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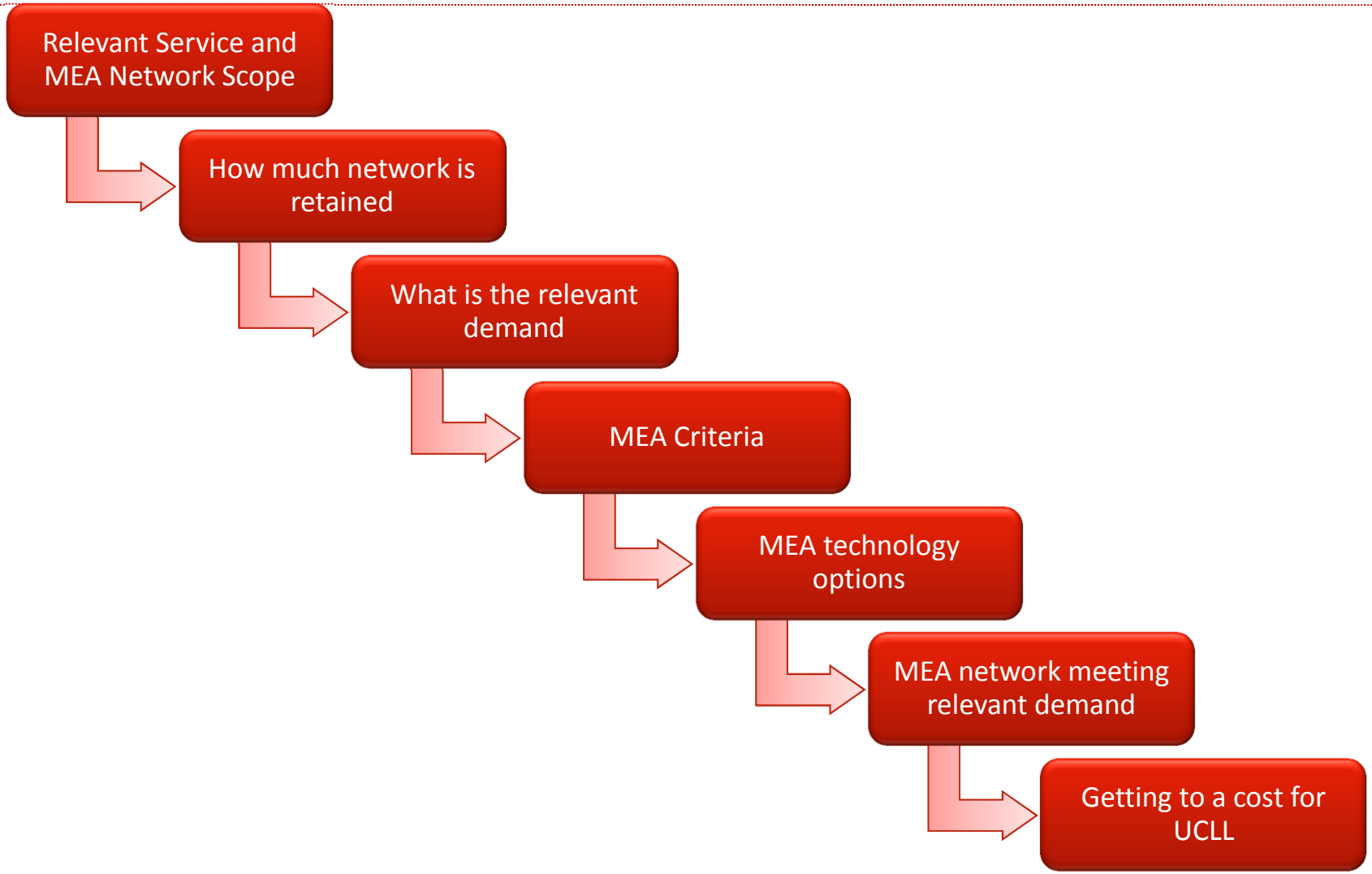
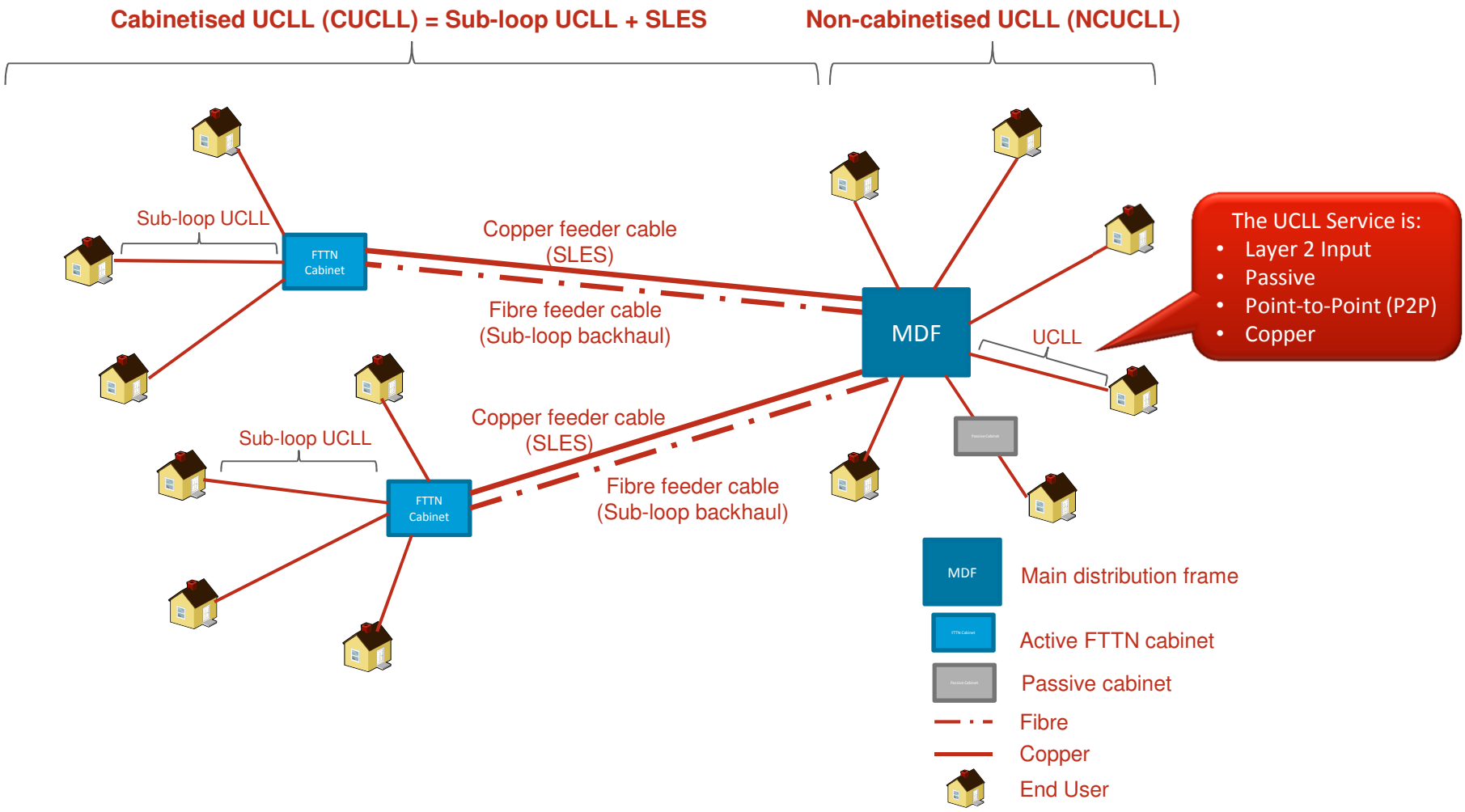
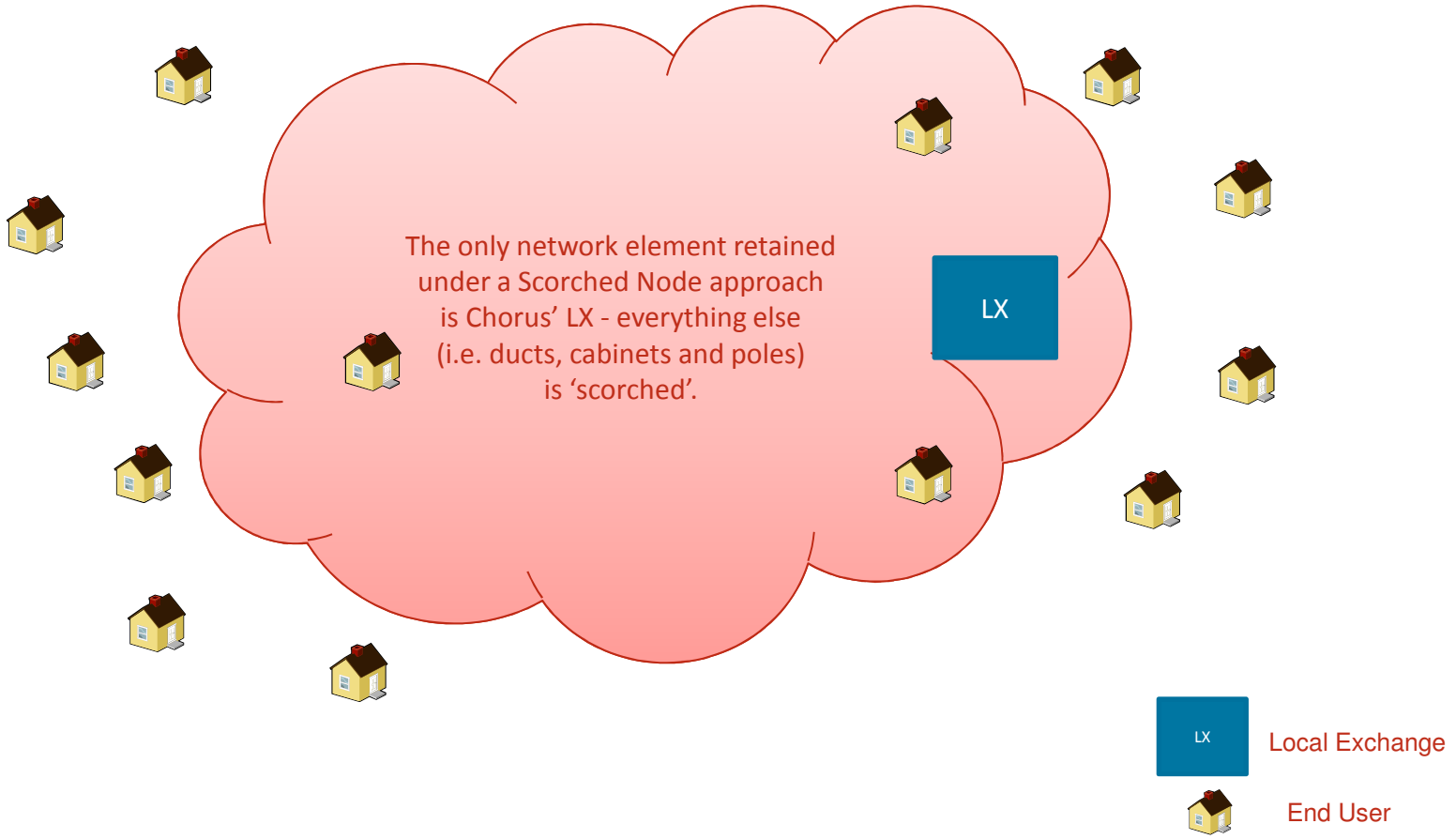
Key Modelling Concepts



Relevant service & MEA network scope



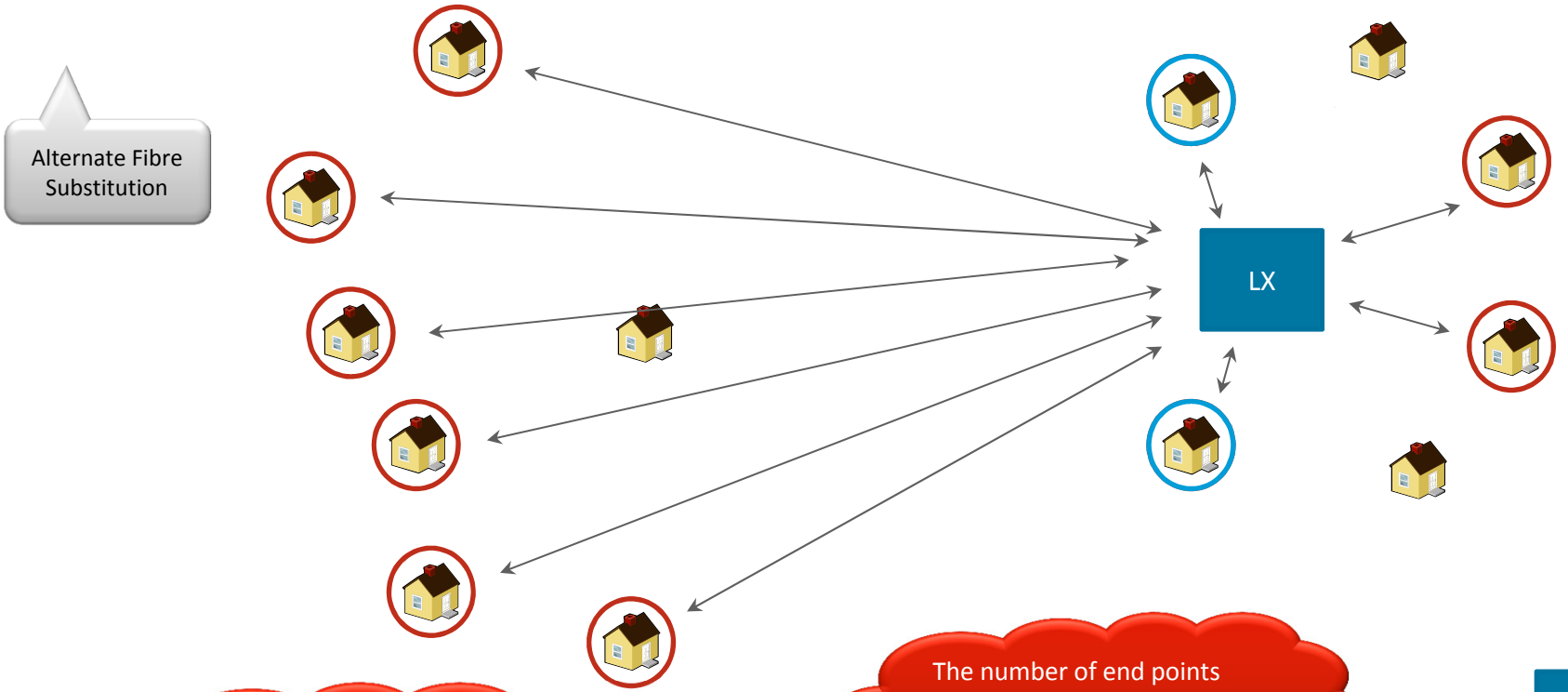
How much network is retained



Demand

Demand (in a passive (layer 1) access network) is simply the **number of end points** (homes) that need to be connected to the designated nodes.

Replicating the network scale and density an efficient entrant requires to compete.



Houses (forecast) to **migrate away from Chorus (copper or fibre) network** during the regulatory period will be **excluded**.

The number of end points modelled will reflect the **current UCLL Network footprint at a point in time**.

LX Local Exchange

Copper End User

Fibre End User

MEA criteria

We are establishing the TSLRIC of the UCLL Service by modelling a competing hypothetical network – or Modern Equivalent Asset. We have looked at what the UCLL Service offers Access Seekers in order to determine the technological features that might comprise the MEA.

The features of the UCLL Service we think are determinative

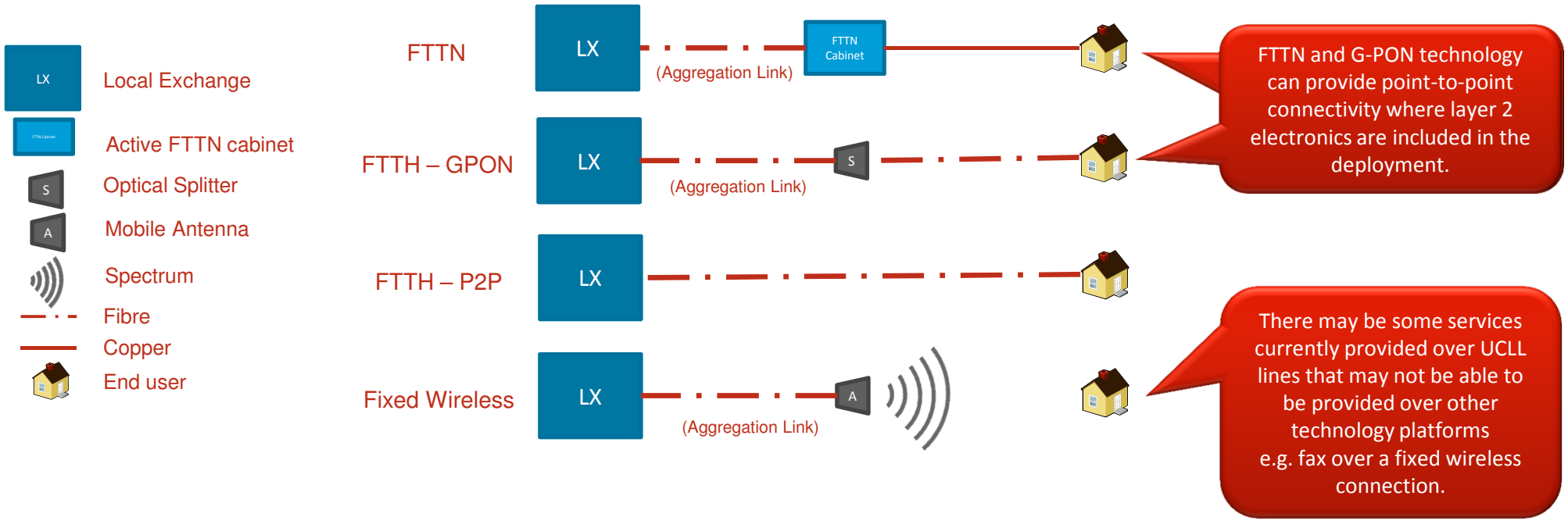
- **Layer 2 input**
  - The ability for access seekers to provide a layer 2 (or higher) service is fundamental to the UCLL Service, and should therefore form part of the MEA selection criteria. Importantly, this leaves open the possibility of a layer 1 or layer 2 MEA.
- **Point-to-Point**
  - Point-to-Point enables Access Seekers to scale and customise end user connections.
- **Services**
  - The delivery of services is to a large extent determined by the transmission capacity of the given link. Our view is that services and transmission capacity is a relevant consideration for determining the MEA.
    - We note that there may be some services currently provided over UCLL lines that may not be able to be provided over other technology platforms e.g. fax over a fixed wireless connection.

The features of the UCLL Service we don't think are determinative

- **Copper**
  - Accepting copper as a MEA criterion would lead to the exclusion of modern access technologies, such as fibre and fixed wireless.
- **Passivity**
  - Passivity should not be a determinative feature of the MEA i.e. passive and active technologies.
- **Power**
  - A DC path should not be a necessary requirement of a MEA, as this capability is a historical aspect of copper networks, rather than an important feature of the UCLL Service for access seekers.

MEA technology options

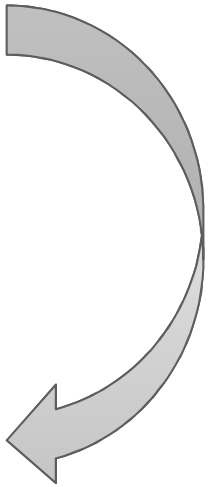
We consider that the following technologies meet our criteria i.e. provide a layer 2 input, point-to-point connectivity, and sufficient transmission capability to enable services currently delivered over UCLL.



Other MEA considerations

Other MEA Considerations

- **Cost**
  - The MEA technology should be more cost-efficient than the current technology in producing the services of the current technology. Efficiency here includes both quality and quantity considerations.
- **Best-in-use technology**
  - The MEA should be of a sufficiently modern technology and architecture to optimise, over the long term, investments made in civil infrastructure, while being a readily available, best-in-use, technology.
- **Alternate infrastructure**
  - The MEA technology may involve the use of layer 0 infrastructure (such as ducts and poles) owned by other network operators (telecommunications or otherwise) so that investment costs are minimised.

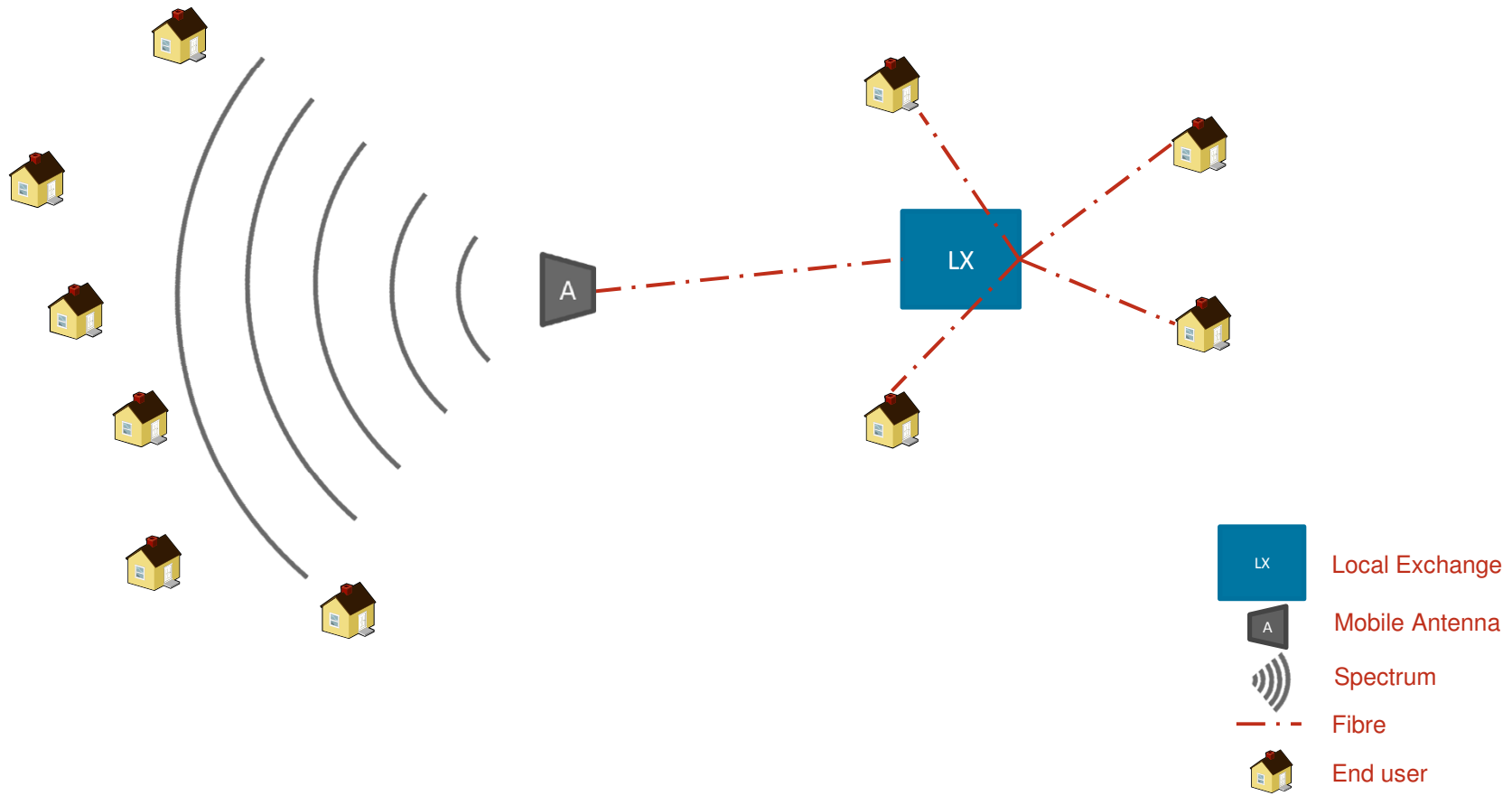


Cost Efficiency & Performance Adjustment

- Access technologies vary in cost and capability. The MEA is likely to offer superior performance to the UCLL network.
- The objective of applying a performance adjustment is to achieve competitive neutrality across technology platforms.
- There is some support for an adjustment (BEREC and EC), but no consensus on how to apply. There are several approaches:
- **Willingness to pay**
  - Costs are adjusted using an estimate of relative consumer willingness to pay.
    - E.g. end-users are found to be willing to pay relatively more for fibre, then a downward adjustment would be applied to the fibre-based cost to calculate the copper price
- **Technological performance**
  - Cost are adjusted based on the different technical capabilities of the technologies
    - E.g. relative capacity of copper vs. FTTH (e.g. 50 Mbits/sec vs. 1 Gbits/sec).
- **Cost**
  - The difference in cost between the current and MEA technologies is applied to the cost structure of the MEA technology. Effectively, the lowest technology cost is used, irrespective of the MEA.

MEA network meeting demand

This is a stylised example of a small geographic area to illustrate a concept.



Getting to a cost for UCLL service