Name Service in the homenet

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Requirements

• Disconnected operation ("fate sharing"): name resolution for reachable devices continues if the local network is disconnected from the global Internet
• Relative name resolution: some naming convention that allows name resolution while mitigating the need to know an absolute location in the global DNS namespace
• Representation in the global DNS namespace, for access from off-net
• Unmanaged operation
• Efficient message utilization: for example, keep unwanted traffic off of an IEEE802.15.4 network
DNS

• Authoritative server for subscriber zone allows local resolution for disconnected operation
• Assumes there is “a place” for an “autonomously operating” server
• DDNS for populating server
• DNS resolution for local and remote queries
• Devices in homenet need to have some notion of “local” resolution context (droms-home.example.net)
mDNS

• Distributed operation; no central server
• Inherent local resolution context
• No dynamic update required
• Limited to single link
• Obvious extensions (xmDNS) require some care in design for scale