Service Discovery in Homenet with Multiple Domains: Problem Statement

draft-cao-homenet-mif-srvdis-00

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Background

• In draft-ietf-homenet-arch-11 #section-2.1
  – The homenet needs to be able to handle or provision at least
    o Routing
    o Prefix configuration for routers
    o Name resolution
    o Service discovery
    o Network security
Multihoming Service Discovery

- Access -1: ADSL from SP-1
- Access -2: Cable from SP-1
- Access -3: WiFi from SP-2
Multihoming Service Discovery

- Discovery Client connects via ISP-2 to Internet
- Problem #1: how to return with a ‘friendly’ referral to the client
Suppose there is one service named with the private domain name, say 'temperature.iitf', within M-DNS discovery domain.

The 'Discovery Client' is connecting to the homenet domain, 3GPP domain and a WLAN domain (internet face).

Two unicast name domains and one multicast name domain.
The unicast domain can preconfigure information using DHCP / RFC6731.
But the multicast domain is supposed to be 'zero configuration'.
Matter of Fact

• **Ideal**: Given a type of service a multiple-interfaced client is looking for, the discovery progress ought to return a correct pointer to the service instance that the client is able to access without trying every available channel. (Exhaustive testing works but may be inefficient for constrained hosts.)

• **Real Life**: not always true

• **Reason**: “protocols and services become complex day-by-day, but users don't. We can memorize many IP address, domain names, or URLs to select/specify communication endpoint. But we cannot expect our home customers to do so”
Next Steps

• Comments and suggestion are welcome

• Interested partners are welcome