Use Cases for Multiple Provisioning Domain in Homenet
draft-geng-homenet-mpvd-use-cases-02

Liang Geng
liang.geng@hotmail.com
Provisioning Domain

• A set of consistent configuration information (e.g., default router, network prefixes, DNS) and the corresponding interface.

• One administrative domain may have multiple provisioning domains.
MIF Node

- A MIF node has the following characteristics:
  - [RFC1122] IPv4- and/or [RFC4294] IPv6-compliant node.
  - Configured with more than one IP
  - Can attach to more than one provisioning domain
  - The interfaces may be virtual or physical.
  - IPv4/IPv6 compatible.
  - More in RFC6418...
An example of PVD use within a home network.

- Figure taken from draft-ietf-mif-mpvd-arch-10
PvD in Homenet – Why useful?

• Multiple Physical/Logical Interfaces
  – Host /Router; Router/Router; Router/ISP

• Diversity of Services
  – Basic Internet, VPN, VoD, IoT, etc.

• If Homenet is PvD-aware
  – Correct network configuration used for all interfaces and services/applications
An Example
PvD-aware Node Behavior

The HNCP CE router

• Generates implicit PvDs.
• Requests and receives all explicit PvDs
• Generates explicit PvDs for interior routers and hosts
• Creates and stores the PvD mapping between the PvD applied itself the the one forwarded to interior routers and hosts using the assigned PvD_ID and prefix.
• Identify the prefix received from homenet nodes
• Performs PvD selection based on PvD mapping
PvD-aware Node Behavior

• Generates implicit PvDs.
• Requests and receives all explicit PvDs
• Generates explicit PvDs (Router)
• Creates and stores the PvD mapping between the PvD applied itself the the one forwarded to interior routers and hosts using the assigned PvD_ID and prefix. (Router)
• Identify the prefix received from homenet nodes (Router)
• Performs PvD selection based on PvD mapping (Router)
Next Steps

- Consolidate Homenet MPvD
- Working on detailed configurations