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
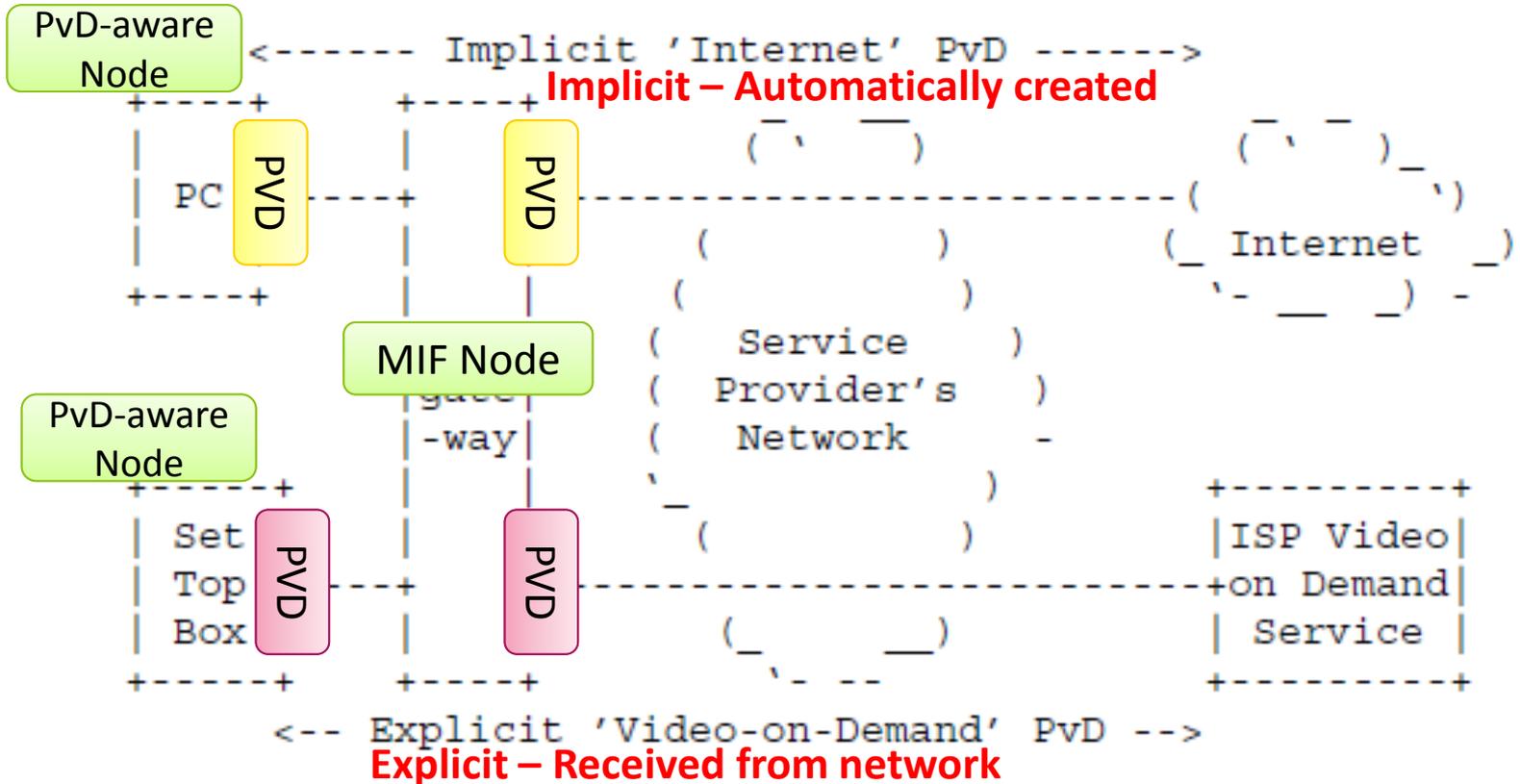
An example of PvD use within a home network.

- 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
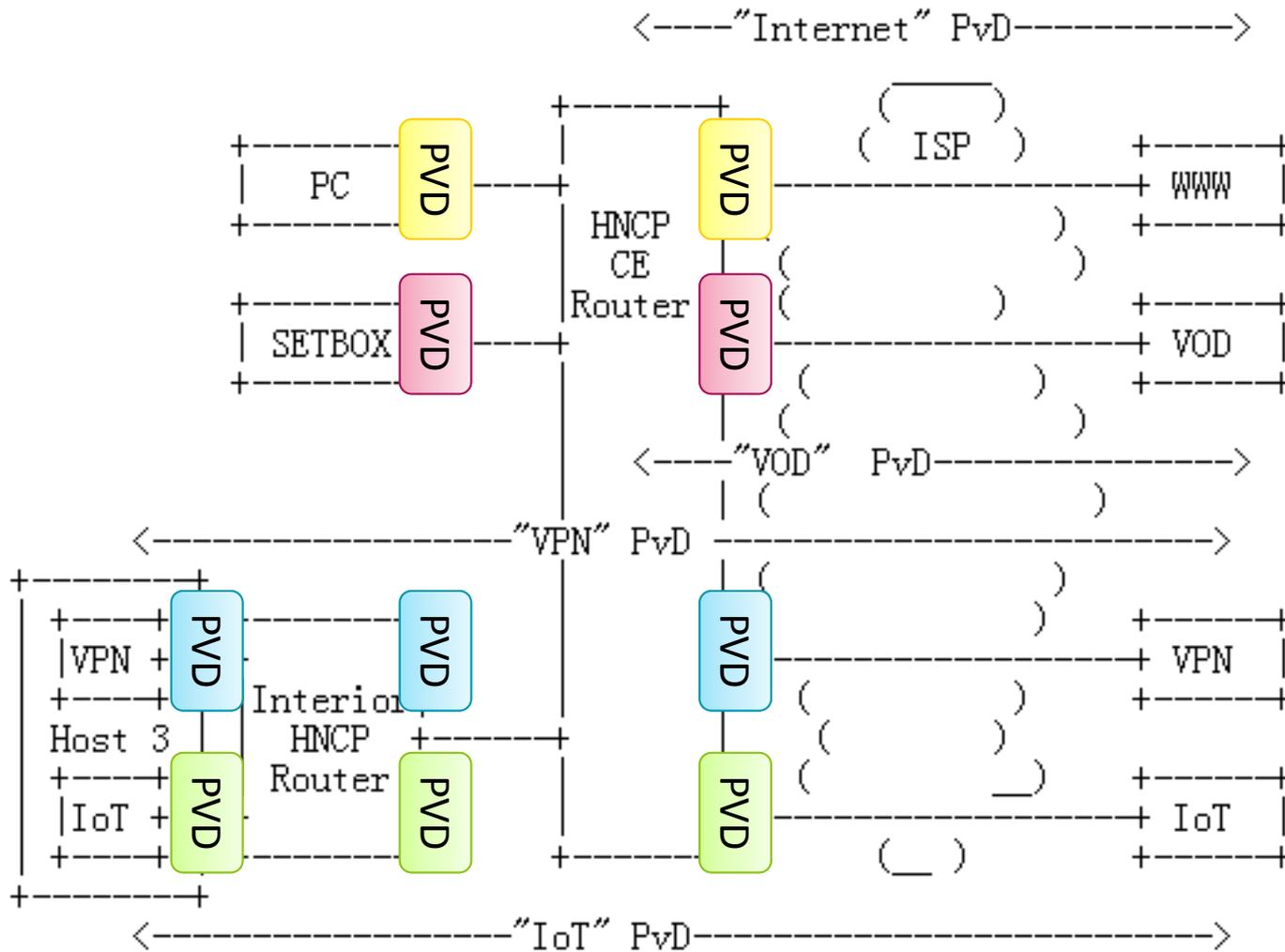
PvD-aware Node Behavior

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