

# **DNS Name Autoconfiguration for Home Network Devices**

draft-jeong-homenet-device-name-autoconf-01

IETF 91, Honolulu, HI,  
November 13, 2014

**Paul (Jaehoon) Jeong and Jung-Soo Park**  
Sungkyunkwan University & ETRI

# Limitation of IPv6 Stateless Autoconfiguration

## ❖ IPv6 Stateless Autoconfiguration for IoT Devices

- **Prefix Information, Default Gateway, and MTU**
  - Neighbor Discovery for IP version 6 (RFC 4861)
- **IPv6 Address**
  - IPv6 Stateless Address Autoconfiguration (RFC 4862)
- **Recursive DNS Server Addresses & DNS Search List**
  - IPv6 Router Advertisement Options for DNS Configuration (RFC 6106)
- **Missing?**
  - **DNS Name Autoconfiguration** for IoT-Device DNS Name
    - DNS Configuration for IoT Devices **can be automated** without the intervention of a network administrator (or home users).

# DNS Name Autoconfiguration for IoT Devices

## ❖ This draft supports **IPv6 Home Networking Architecture Principles** [RFC 7368]

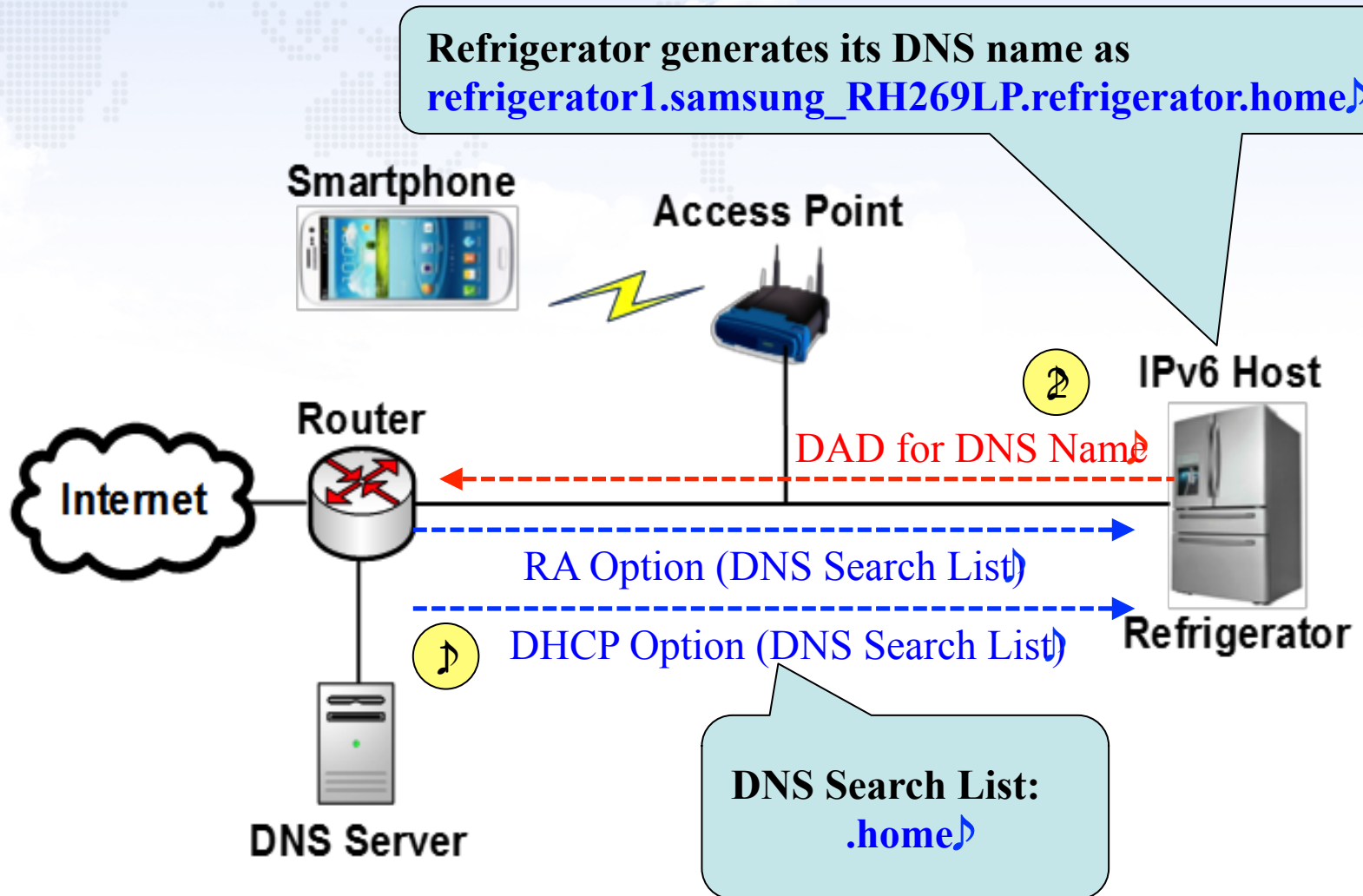
- DNS service for **Multi-subnet homenets**
- DNS service coexisting with the **Internet name service**
- **A simple way to name devices**
- The support of both **Global** and **Local name spaces**

## ❖ DNS Name Autoconfiguration

- **Assumption**
  - **Device information** (e.g., device category, vendor name, device model) is stored in device storage.
  - **Domain suffix** is available in a subnet via RA or DHCPv6.
- **DNS Name Generation**
  - `unique_id + vendor_device_model + device_category + domain_suffix` (e.g., .home)
- **DNS Name Registration**
  - Device names are registered into DNS Server by **Node Information Protocol** and **DNS Dynamic Update**.

# DNS Name Autoconfiguration (1/2)

## ❖ IoT Device's DNS Name **Generation**



# DNS Name Autoconfiguration (2/2)

## ❖ IoT Device's DNS Name Registration

