

Having fun with Provisioning Domains & Captive Portals



*Marcus Keane**



Tom Jones



Pierre Pfister
Eric Vyncke
*Thierry Danis**

“A small router vendor company” (Fred B.)



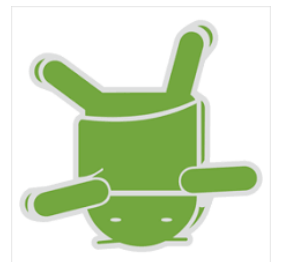
Tommy Pauly

“Some fruit company” (Forrest Gump)

CableLabs®

Darshak Thakore

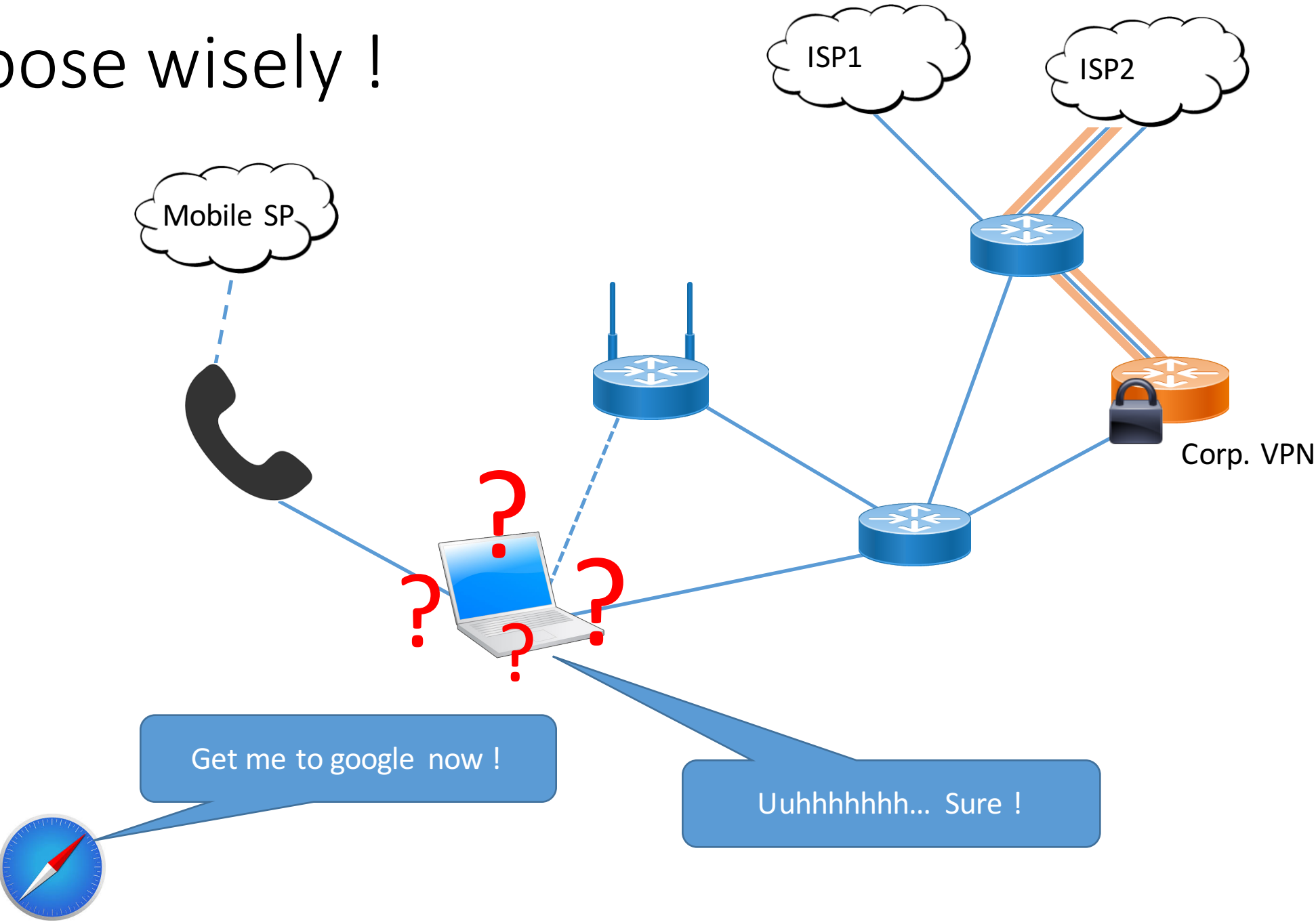
Erik Kline



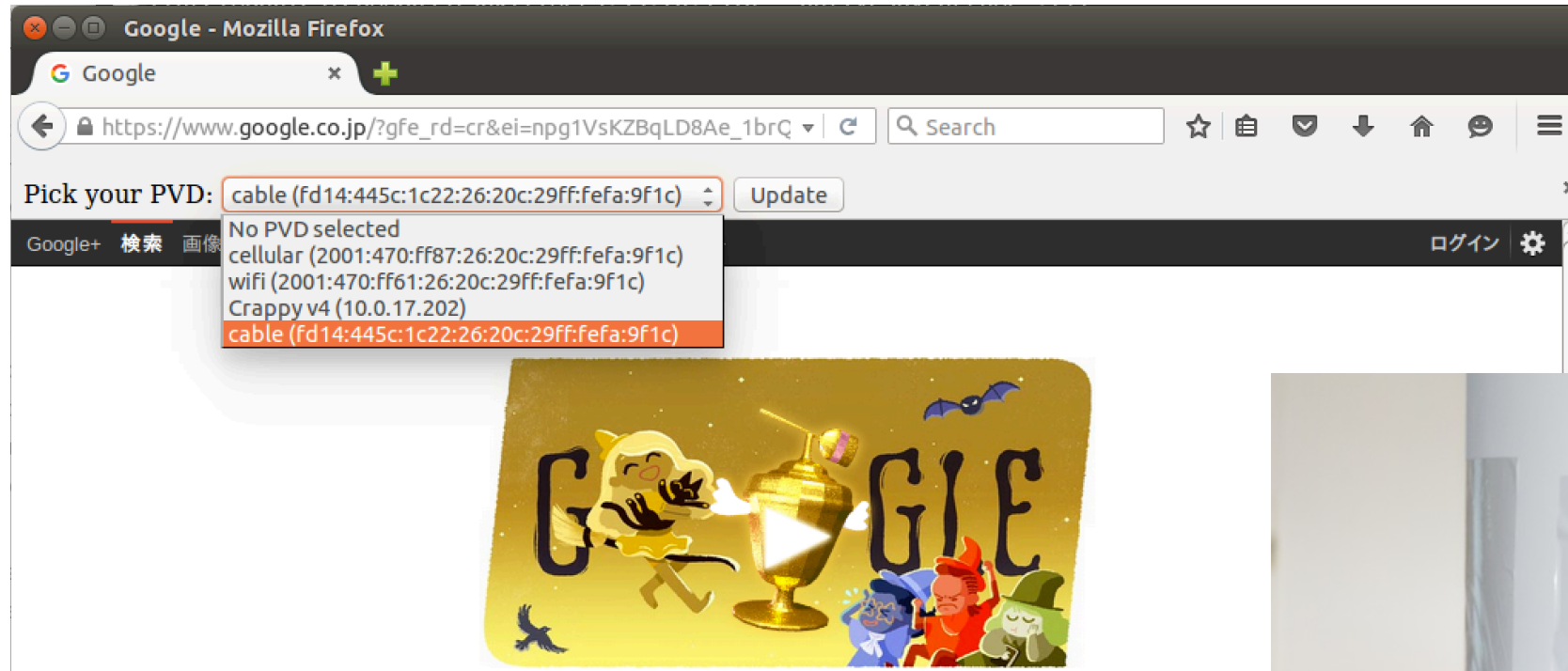
* First IETF-timers

IETF 99 Hackathon

Choose wisely !

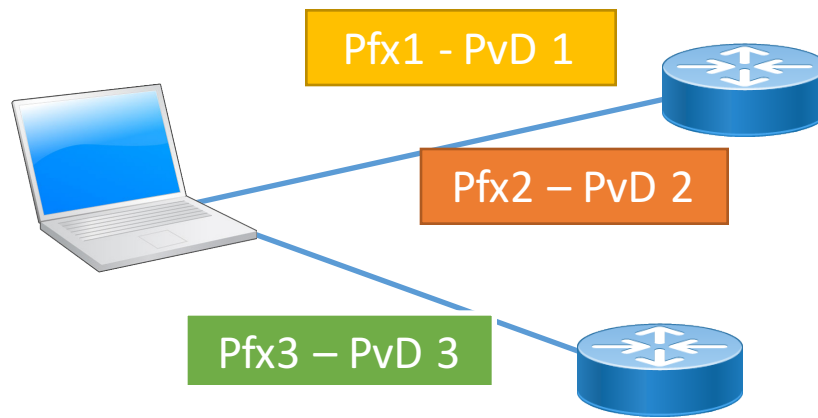


A Continuation of hackathon @ IETF 94



PvDs + CAPPORT in 15 seconds

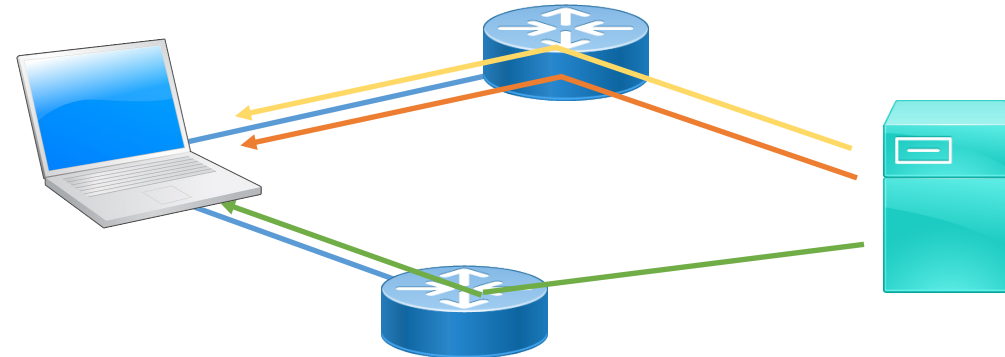
Step 1:
Get the PVD IDs



draft-ietf-rtgwg-enterprise-pa-multihoming-01
draft-bruneau-intarea-provisioning-domains-01

PVD-ID = FQDN

Step 2:
Get Additional Information
with HTTP



HTTP GET <http://<pvd-id>/pvd.json>

Step 3:
Get to the captive portal.



Captive Portal API

Hackathon Achievements



draft-ietf-rtgwg-enterprise-pa-multihoming-01
draft-bruneau-intarea-provisioning-domains-01
draft-tbd-capport-tbd

OpenWrt Support

<https://github.com/Oryon/ietf99-odhcpd>

- odhcpd PVD ID RA Option
- odhcpd multiple RAs per interface
- Luci configuration interface

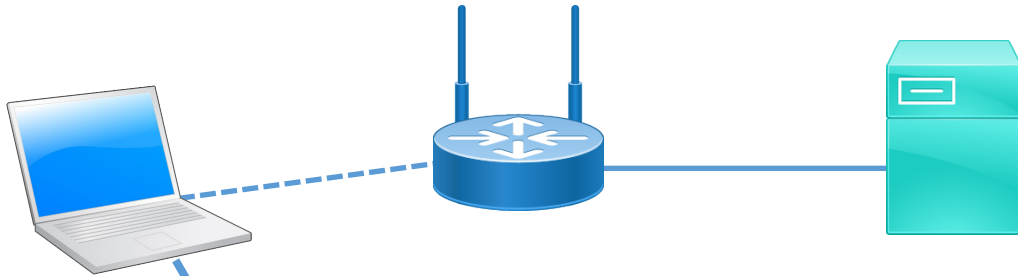
```
option pvd_id 'smart.mpvd.io'  
option pvd_http '1'  
option prefix_filter '2001:67c:1230:bade::1/64'  
option ra_maxinterval '15'
```

RA Prefix Filter	<input type="text" value="2001:67c:1230:bade::1/64"/>
Provisioning Domain ID	<input type="text" value="smart.mpvd.io"/>
PvD HTTP support	<input checked="" type="checkbox"/>  PvD HTTP Support
PvD Legacy (IPv4) bit	<input type="checkbox"/>  PvD Legacy (IPv4) bit

Hackathon Achievements

draft-ietf-rtgwg-enterprise-pa-multihoming-01
draft-bruneau-intarea-provisioning-domains-01
draft-tbd-capport-tbd

PvD Server and Captive Portal



To connect to the smart PvD, answer this challenge

What is the protocol used in IPv6 to delegate a prefix:

```
{
  "name": "PvD for smart people",
  "prefixes": ["2001:67c:1230:abba::1/64",
"2001:67c:1230:bade::1/64"],
  "noInternet": false,
  "metered": false,
  "captivePortalURL" : "https://smart.mpvd.io/captive.php"
}
```

Hackathon Achievements

draft-ietf-rtgwg-enterprise-pa-multihoming-01
draft-bruneau-intarea-provisioning-domains-01
draft-tbd-capport-tbd

Linux Support

<https://github.com/IPv6-mPvD>

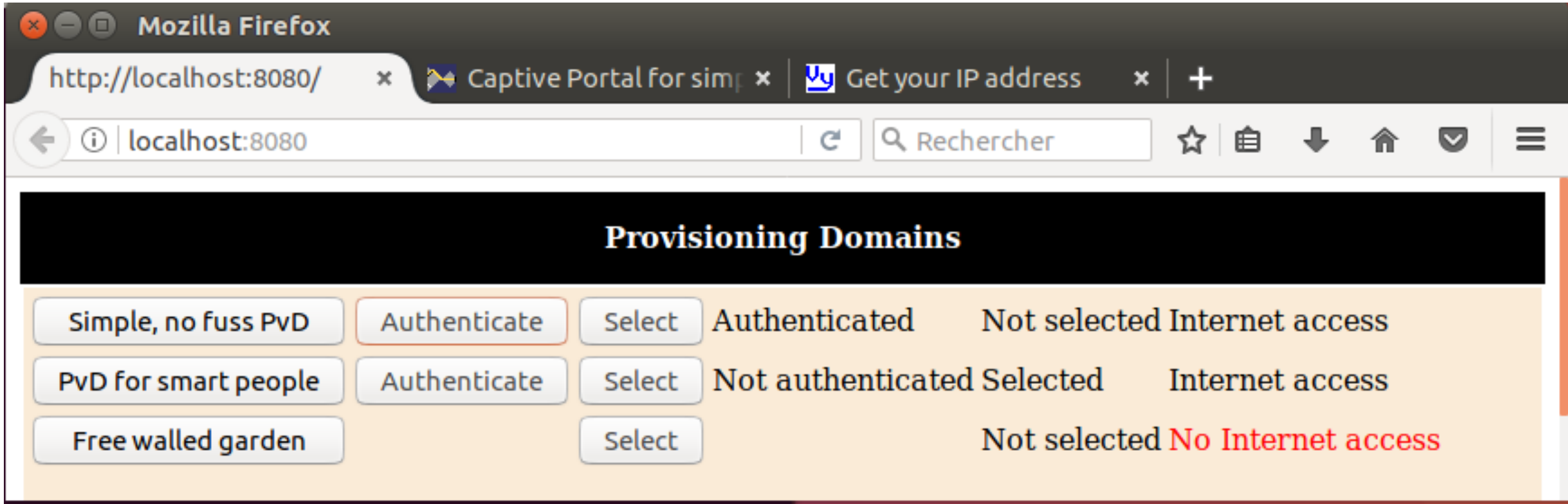
- **Interop. with OpenWrt**
 - Fix Wireshark dissector
 - Fix radvd
 - Fix Linux RA parsing
- Captive portal detection and popup
- Select the PvD with Firefox

▼ ICMPv6 Option (PVD ID Experiment simple.mpvd.io)

Type: PVD ID Experiment (253)
Length: 3 (24 bytes)
PvD sequence number: 0
PvD HTTP flag: 1
PvD legacy flag: 0
PvD reserved field: 0
PvD lifetime: Infinity (4294967295)
PvD ID: simple.mpvd.io

Hackathon Achievements

draft-ietf-rtgwg-enterprise-pa-multihoming-01
draft-bruneau-intarea-provisioning-domains-01
draft-tbd-capport-tbd

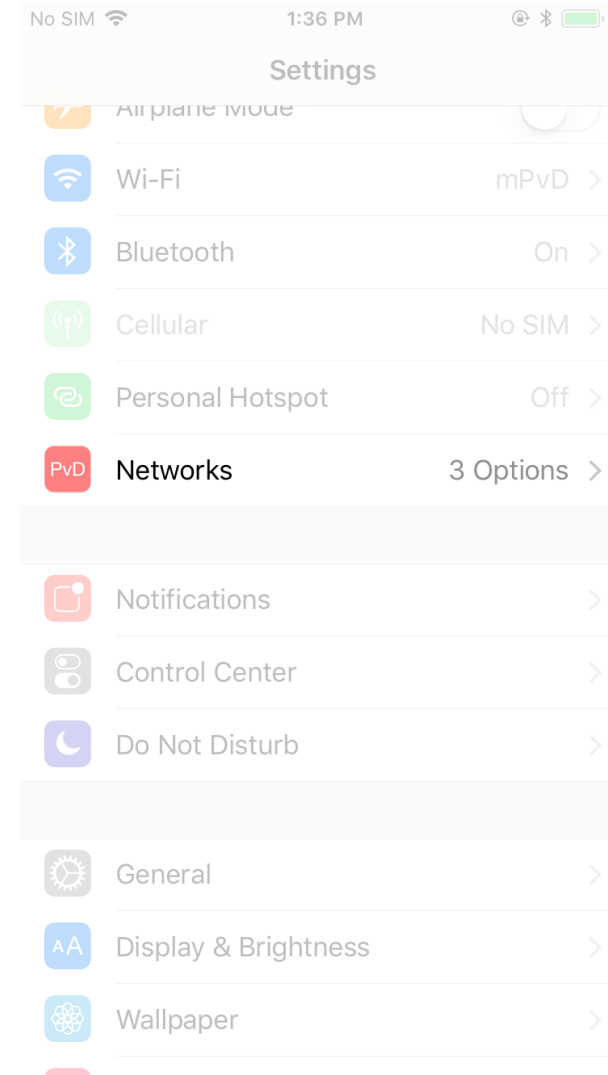


Hackathon Achievements

draft-ietf-rtgwg-enterprise-pa-multihoming-01
draft-bruneau-intarea-provisioning-domains-01
draft-tbd-capport-tbd

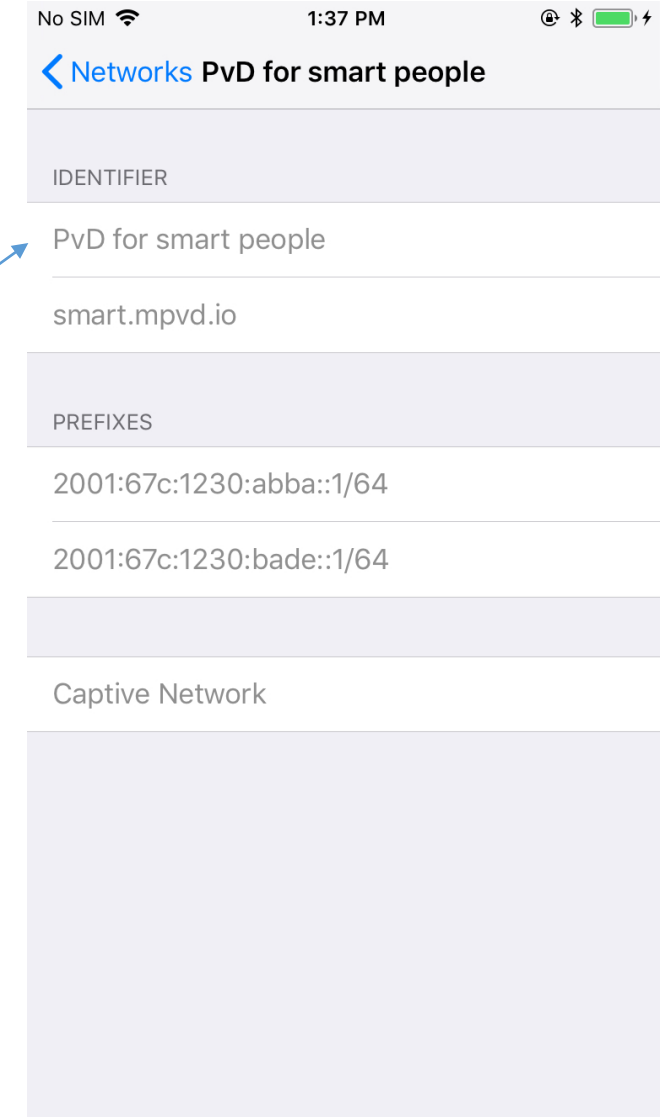
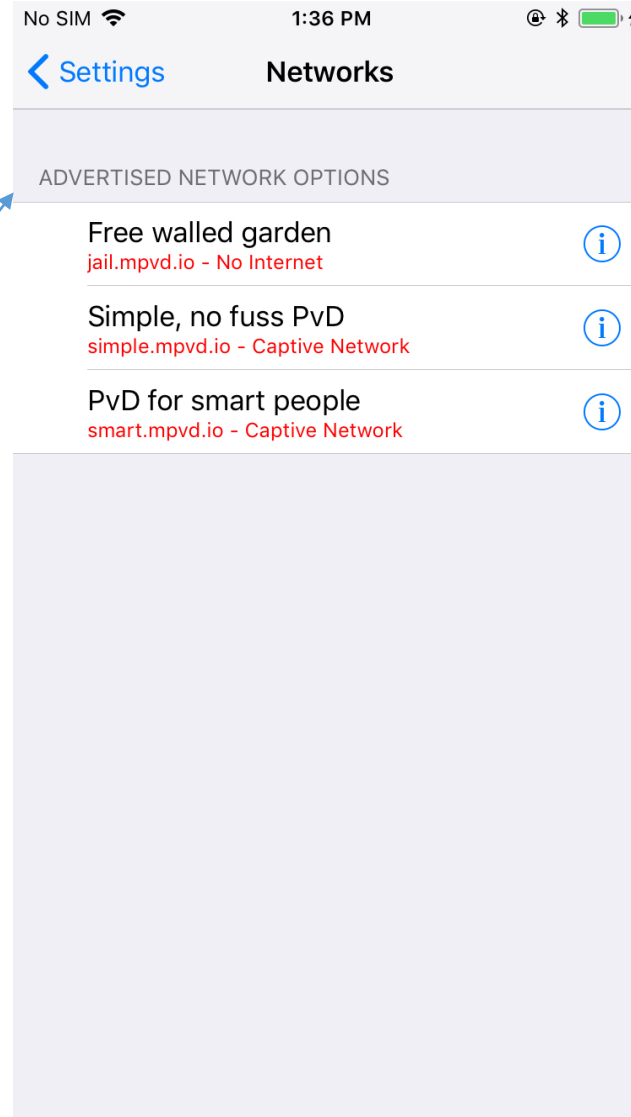
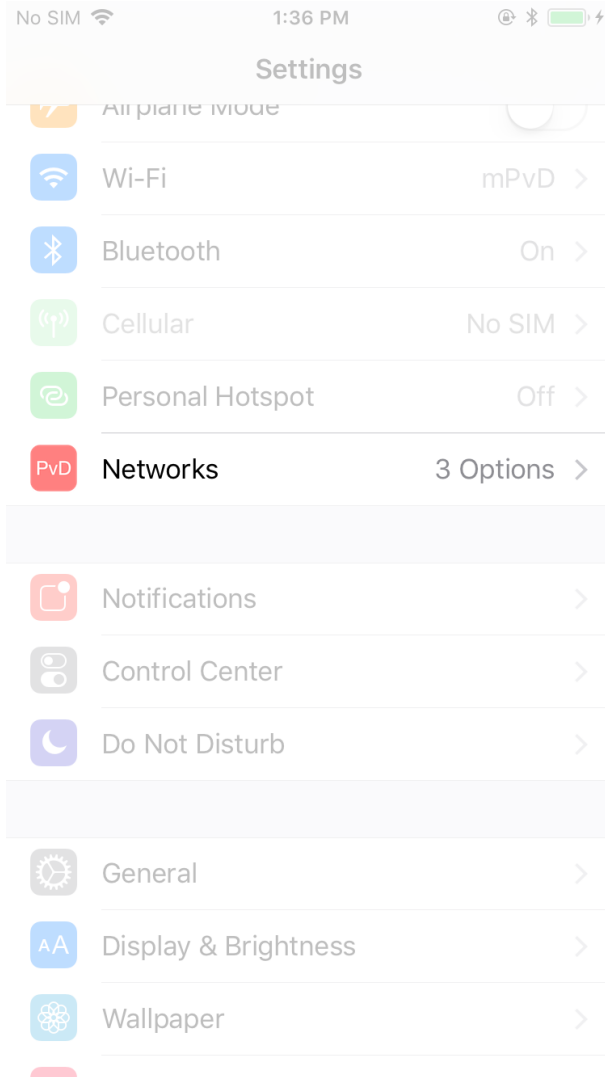
iOS Support

- Parsing RA PVD ID Option
- Fetch JSON PvD Additional Data
- Provide data to userland
- Accept multiple PvDs on single interface



Hackathon Achievements

draft-ietf-rtgwg-enterprise-pa-multihoming-01
draft-bruneau-intarea-provisioning-domains-01
draft-tbd-capport-tbd



Hackathon Achievements

draft-ietf-rtgwg-enterprise-pa-multihoming-01
draft-bruneau-intarea-provisioning-domains-01
draft-tbd-capport-tbd

neat support

- Fetch PvD List
- Integrate with NEAT information base

```
{  
  "description": "PvD CIB node for remote host 192.168.56.10",  
  "expire": -1.0,  
  "filename": "pvd-enp0s8-192.168.56.10.cib",  
  "link": true,  
  "priority": 0,  
  "properties": [  
    [ {  
      "interface": { "precedence": 2, "value": "enp0s8" },  
      "local_interface": { "precedence": 2, "value": true }  
    } ],  
    [ {  
      "capacity": { "precedence": 2, "value": 2000000 },  
      "rtt": { "precedence": 2, "value": 0.1 }  
    } ],  
  ],  
  "root": false, "uid": "pvd-enp0s8-192.168.56.10"  
}
```

Feedback received during the hackathon

- Use ASCII formatting in RA option
- Use `https://<pvd-id>/.well-known/pvd`



Go read the drafts !

Go write code !