

Broadcast-Multicast Service Controller Discovery via DHCP-Option-Codes

draft-chowdhury-dhc-bcmcv4-option-00.txt

draft-chowdhury-dhc-bcmcv6-option-00.txt

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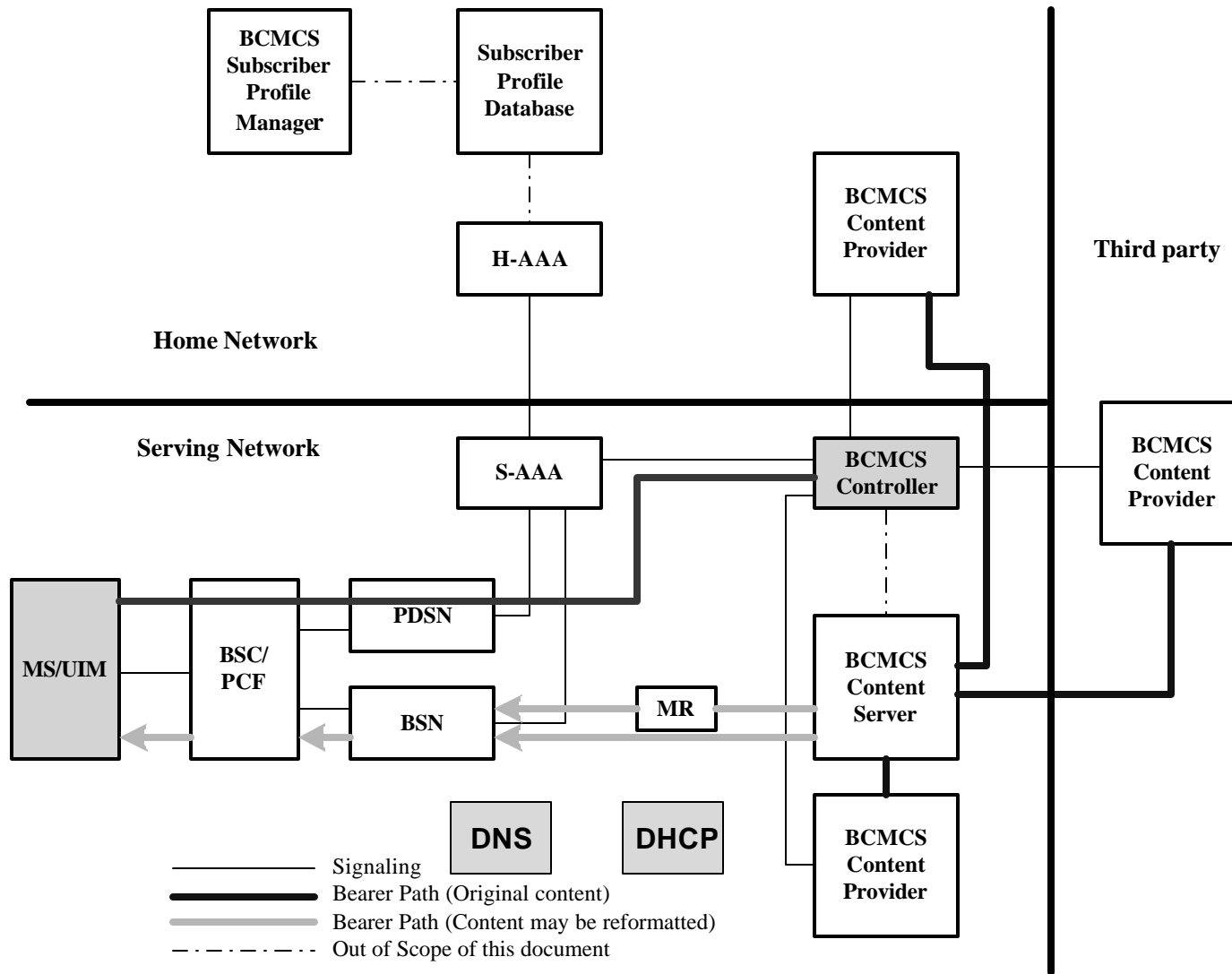
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Quick Intro: What is BCMCS?

- BCMCS is the short form of BroadCast and MultiCast Service over an IP network.
- This type of service is being developed in 3GPP2 (www.3gpp2.org) at this time.
- Similar service is also being developed for other wireless access e.g. 3GPP, OMA.
- The Service will allow users to receive variety of content (e.g. video/text) on their handsets over cellular links.

BCMCS architecture (3GPP2)



High Level Operational Overview

- User's subscribe to BCMCS service.
- In a given radio network, the user requests for content information from the controller.
- The controller may authenticate and authorize the user before sending content information.
- The user's interaction with the controller is crucial for the operation of this service.
- The controller is a local/visited network entity.
- The user's/mobiles must discover local controller IP address for BCMCS information acquisition.

Motivation for using DHCP

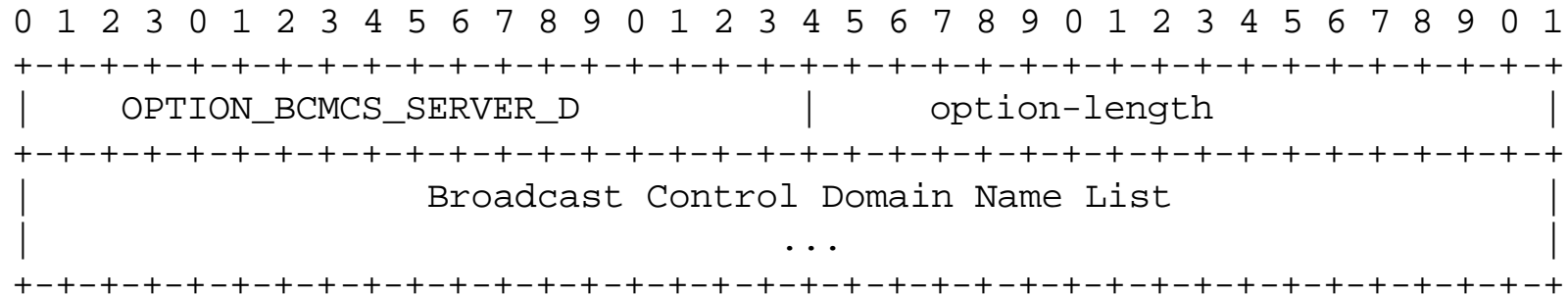
- BCMCS controller is a local network entity.
- The user's must discover the address of a local controller.
- Address provisioning in the handsets is not feasible in large public networks.
- In a roaming situation, the address provisioning does not work.
- DHCP is the configuration protocol and it is the natural protocol of choice.

DHCPv6 options

- draft-chowdhury-dhc-bcmcv6-option-00.txt
- Proposes to use stateless DHCP as per RFC 3115.
- The Client includes appropriate O-R-O in the Information Request.
- The Client may also include Client Identifier Option in the Request.
- Two options proposed:
 - Broadcast Service Controller Domain Name List option.
 - Broadcast Service Controller IPv6 address option.

DHCPv6 options contd.

- Broadcast Service Controller Domain Name List option:



DHCPv6 options contd.

- Broadcast Service Controller IPv6 address option:

```
0 1 2 3 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   OPTION_BCMCS_SERVER_A           |   option-length           |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   Broadcast Control server-1 address (IPv6 address)           |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   Broadcast Control server-2 address (IPv6 address)           |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|                                   ...                             |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
```


DHCPv4 options

- Broadcast Service Controller Domain Name list option:

Code	Len	enc	FQDN(s) of Broadcast Controller						
TBD	n	0	s1	s2	s3	s4	s5	...	

- Broadcast Service Controller IPv4 address option:

Code	Len	enc	Address 1				Address 2		
TBD	n	1	a1	a2	a3	a4	a1	...	

Next Step?