MAP Provisioning over DHCPv6

IETF82

draft-mdt-softwire-map-dhcp-option-01

MAP Design Team
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History

- Result of MAP Design Team work
  - 5 authors with varied backgrounds
    - Tomek Mrugalski (DHCP implementor)
    - Ole Troan (vendor)
    - Mohamed Boucadair (operator)
    - Xiaohong Deng (operator)
    - Congxiao Bao (dIVI/dIVI-PD)
  - The whole MAP Design Team contributed

- Reused parts of previous work
  - 4rd: draft-mrugalski-dhc-dhcpv6-4rd-00
  - A+P: draft-boucadair-dhcpv6-shared-address-option-01

- Tight schedule:
  - Work began early October
  - draft-mdt-softwire-map-dhcp-option-00 (24 Oct.)
  - draft-mdt-softwire-map-dhcp-option-01 (31 Oct.)
Design principles

- Closely follows MAP design draft
- Design principles:
  1) Use least # of parameters (avoid redundancy)
  2) Choose simpler form if not contradicts 1)
  3) Reuse what we have now
     1) DHCPv6-PD
     2) DHCPv6 address
Options layout

- One or more MAP rules need to be provisioned to CE
- BR configuration is outside of scope
- Each MAP rule consists of:
  - Rule-id (to be removed in -02)
  - Rule IPv4 prefix/length
  - Rule IPv6 prefix/length
  - EA-Len (Embedded Address Length)
  - Port Set Parameters (optional)
- Port Set Parameters (optional one sub-option per rule):
  - Excluded ports
  - Offset bits (currently 4 or 6)
  - Offset base: a or m
- MAP Flags (one option per whole configuration):
  - Transport: encap or translation
-02 Changes

- Removed rule-id field in MAP rule
  - Simple (2x if) algo for detecting rule type

- Redundant parameter to be removed
  - Prefix4-len, prefix6-len, ea-len, excluded-ports, offset (only 4 are independent, one has to go)

- Options layout simplified (flatter)

-01 (old)

```xml
<MAP_FLAGS>
  <MAP_RULE1>
    <MAP_PORTPARAMS>
    <MAP_RULE2>
    ...
    <MAP_RULEN>
  </MAP_RULE1>
</MAP_FLAGS>
```

-02 (new)

```xml
<MAP_FLAGS>
  <MAP_RULE1>
    <MAP_PORTPARAMS>
    <MAP_RULE2>
    ...
    <MAP.RuleN>
</MAP_FLAGS>
```
Proposed options (1): MAP Flags

- A single container option
- Parameters applicable to the whole MAP domain
  - Only one for now
- Extensibility
  - May convey other options
  - Used to convey MAP rule options in -01
  - MAP rule options are top-level options in -02
Proposed options (2): MAP Rule

- May convey default, basic or forwarding rule
- -02 changes: rule-id field removed
Proposed options (3): MAP Port Set Params

• Optional Port set parameters
• MAY appear as sub-option in MAP Rule Option
Next steps

- Requesting broader feedback
- Follow draft-mdt-softwire-mapping-address-and-port
- Requesting for adoption
Thank you