Abstract

This document specifies Multiple IPv4 – IPv6 mapped IPv6 address (M46A) specification. M46A is IPv4 mapped IPv6 address with plane ID. Unique allocation of plane id value enable IPv4 private address unique in IPv6 address space. This address may use IPv4 over IPv6 encapsulation and IPv4 – IPv6 translation.

Requirements Language

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [RFC2119].

Status of this Memo

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1. Introduction

This document specifies Multiple IPv4 - IPv6 mapped IPv6 address (M46A) specification. M46A is IPv4 mapped IPv6 address with plane ID. Unique allocation of plane ID value enables IPv4 private address unique in IPv6 address space.

This address may use IPv4 over IPv6 encapsulation such as Multiple IPv4 - IPv6 mapping encapsulation - fixed prefix (M46E-FP) [I-D. draft-matsuhira-m46e-fp], Multiple IPv4 - IPv6 mapping encapsulation - prefix resolution (M46E-PR) [I-D. draft-matsuhira-m46e-pr], Multiple IPv4 - IPv6 mapping encapsulation - prefix translator (M46E-PT) [I-D. draft-matsuhira-m46e-pt] and IPv4 - IPv6 translation such as Multiple IPv4 - IPv6 mapping translator (M46T) [I-D. draft-matsuhira-m46t].

2. M46A architecture

Figure 1 shows M46A architecture.

```
<table>
<thead>
<tr>
<th>96 - m bits</th>
<th>m bits</th>
<th>32 bits</th>
</tr>
</thead>
<tbody>
<tr>
<td>M46A prefix</td>
<td>IPv4 network plane ID</td>
<td>IPv4 address</td>
</tr>
</tbody>
</table>
```

Figure 1

M46A consists of three parts as follows.

M46A prefix

M46A prefix. This value is fixed value with M46E-FP, and non fixed value with M46E-PR.

IPv4 network plane ID

IPv4 network plane ID is network identification of IPv4 network plane.

IPv4 address

IPv4 address
3. IANA Considerations

This document makes no request of IANA.

Note to RFC Editor: this section may be removed on publication as an RFC.

4. Security Considerations

5. References

5.1. Normative References

[I-D.draft-matsuhira-m46e-fp]

[I-D.draft-matsuhira-m46e-pr]
Matsuhira, N., "Multiple IPv4 - IPv6 address mapping encapsulation - prefix resolution", November 2018.

[I-D.draft-matsuhira-m46e-pt]

[I-D.draft-matsuhira-m46t]


5.2. References
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