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Multiple IPv4 - IPv6 mapped IPv6 address (M46A)

Abstract

This document specifies Multiple IPv4 - IPv6 mapped IPv6 address(M46A) specification. M46A is an IPv4-mapped IPv6 address with a 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 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](#)].

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1. Introduction

This document specifies Multiple IPv4 - IPv6 mapped IPv6 address(M46A) specification. M46A is an IPv4-mapped IPv6 address with a 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) [M46E-FP \[I-D.draft-matsuhira-m46e-fp\]](#), Multiple IPv4 - IPv6 mapping encapsulation - prefix resolution (M46E-PR)[M46E-PR \[I-D.draft-matsuhira-m46e-pr\]](#), Multiple IPv4 - IPv6 mapping encapsulation - prefix translator (M46E-PT)[M46E-PT \[I-D.draft-matsuhira-m46e-pt\]](#) and IPv4 - IPv6 translation such as Multiple IPv4 - IPv6 mapping translator (M46T)[M46T \[I-D.draft-matsuhira-m46t\]](#).

2. M46A architecture

[Figure 1](#) shows M46A architecture.

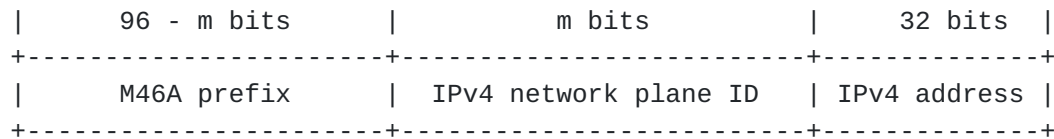


Figure 1

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 the network identification of the IPv4 network plane.

IPv4 address

IPv4 address

3. IANA Considerations

This document does not request IANA.

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

4. Security Considerations**5. Normative References**

[I-D.draft-matsuhira-m46e-fp] Matsuhira, N., "Multiple IPv4 - IPv6 mapping encapsulation - fixed prefix", 1 June 2019.

[I-D.draft-matsuhira-m46e-pr] Matsuhira, N., "Multiple IPv4 - IPv6 address mapping encapsulation - prefix resolution", 1 June 2019.

[I-D.draft-matsuhira-m46e-pt] Matsuhira, N., "Multiple IPv4 - IPv6 mapping encapsulation - prefix translator", 1 June 2019.

[I-D.draft-matsuhira-m46t] Matsuhira, N., "Multiple IPv4 - IPv6 mapping translator", 1 June 2019.

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, DOI 10.17487/RFC2119, March 1997, <<https://www.rfc-editor.org/info/rfc2119>>.

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