

Workgroup: Network Working Group  
Internet-Draft: draft-matsuhira-m46a-12  
Published: 4 April 2022  
Intended Status: Informational  
Expires: 6 October 2022  
Authors: N. Matsuhira  
WIDE Project

## Multiple IPv4 - IPv6 mapped IPv6 address (M46A)

### 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

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <https://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on 6 October 2022.

### Copyright Notice

Copyright (c) 2022 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to BCP 78 and the IETF Trust's Legal Provisions Relating to IETF Documents (<https://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents

carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Revised BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Revised BSD License.

## Table of Contents

- [1. Introduction](#)
- [2. M46A architecture](#)
- [3. IANA Considerations](#)
- [4. Security Considerations](#)
- [5. Normative References](#)
- [Author's Address](#)

## 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 enable 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 encapsuration - 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.

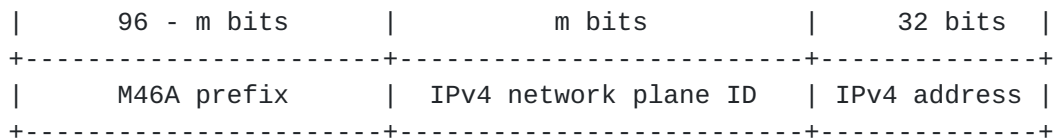


Figure 1

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 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. 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>>.

**Author's Address**

Naoki Matsuhira  
WIDE Project  
Japan

Email: [naoki.matsuhira@gmail.com](mailto:naoki.matsuhira@gmail.com)