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Reclassifying EAM (RFC7757) to Internet Standard
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Abstract

This document reclassifies Explicit Address Mappings for Stateless IP/ICMP Translation ([RFC7757]) to Internet Standard.

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1. Introduction

This document proposes that Explicit Address Mappings for Stateless IP/ICMP Translation ([RFC7757]) is advanced Internet Standard, following RFC6410 ([RFC6410]).

(1) There are at least two independent interoperating implementations with widespread deployment and successful operational experience.

Explicit Address Mappings for Stateless IP/ICMP Translation ([RFC7757]) has been widely implemented by at least a dozen of vendors and its being used in commercial deployments by hundreds of millions of devices.

(2) There are no errata against the specification that would cause a new implementation to fail to interoperate with deployed ones.

Explicit Address Mappings for Stateless IP/ICMP Translation ([RFC7757]) has no errata filed.

(3) There are no unused features in the specification that greatly increase implementation complexity.

There are no unused features.

(4) If the technology required to implement the specification requires patented or otherwise controlled technology, then the set of implementations must demonstrate at least two independent, separate and successful uses of the licensing process.

None.

2. Implementation Status

Note to RFC Editor: If this document needs to be published, please remove this section before publication, as it is only intended for the IESG evaluation.

This section summarizes the known status of existing and interoperable implementations of the protocol subject of this document, as well as closely related protocols. This is following ([RFC7942]) and intended to assist the relevant WGs, IESG and IETF as a whole, in the evaluation of the document for the document progress through the standardization process.

The description of the implementations does not imply any IETF endorsement and is solely based on public available information, which has not been formally confirmed by specific interoperability testing for this document publication; however, it is known to be confirmed by existing commercial working deployments worldwide and without known interoperability issues.

Explicit Address Mappings for Stateless IP/ICMP Translation ([RFC7757]) was originally published in February 2016.

([RFC7757]) is implemented together with other related protocols (just to name a few of the most relevant ones) such as:

- * IPv6 Addressing of IPv4/IPv6 Translators ([RFC6052]).
- * IP/ICMP Translation Algorithm ([RFC7915]).

Follows a list of known implementations by different products/vendors, known to be mature and in production products/networks/services worldwide:

- * Al0. Implemented in multiple products.
<https://www.al0networks.com/products/thunder-cgn/>.
- * Arista. Implemented in multiple products.
<https://www.arista.com/en/support/toi/eos-4-24-0f/14495-map-t-border-relay>.
- * Broadcom. Implemented in Brocade products.
<https://techdocs.broadcom.com/us/en/vmware-cis/nsx/nsxt-dc/3-1/administration-guide/network-address-translation/configure-an-nsx-nat64.html>.
- * Cisco. Implemented in multiple series of products.
https://www.cisco.com/c/en/us/td/docs/routers/ios/config/17-x/ip-addressing/b-ip-addressing/m_iadnat-stateless-nat64.html.
- * CLATD. Implemented in Linux. <https://github.com/toreanderson/clatd>.

- * F5. Implemented in multiple products. https://techdocs.f5.com/kb/en-us/products/big-ip_ltm/manuals/product/cgn-implementations-11-6-0/2.html.
- * Fortinet. Implemented in multiple products. <https://docs.fortinet.com/document/fortigate/7.4.6/fortinet-carrier-grade-nat-field-reference-architecture-guide/891965/nat64>.
- * Huawei. Implemented in multiple series of products. <https://support.huawei.com/enterprise/en/doc/EDOC1100279002/a8672300/appendix-gx-interface>.
- * Jool. Implemented since 2014. <https://nicmx.github.io/Jool/en/index.html>.
- * Juniper. Implemented in multiple series of products. <https://www.juniper.net/documentation/us/en/software/junos/nat/topics/topic-map/security-persistent-nat-and-nat64.html>.
- * Nokia. Implemented in multiple products as part of the NAT64 support. <https://documentation.nokia.com/acg/23-7-2/books/classic-cli-part-iii/c128-nat-stateless-dh.html>.
- * OpenWRT. <https://github.com/openwrt>.
- * Palo Alto. Implemented in multiple products. <https://docs.paloaltonetworks.com/ngfw/networking/nat64>.
- * Tayga. <https://github.com/openthread/tayga>.
- * VPP. [https://wiki.fd.io/view/VPP/Configure_an_LW46_\(MAP-E\)_Terminator#SIIT-DC](https://wiki.fd.io/view/VPP/Configure_an_LW46_(MAP-E)_Terminator#SIIT-DC).

Note that even an effort has been done to compile an extensive list (including a relevant URL), there may be many more implementations not publicly known, so this list doesn't pretend to be exclusive, just an indication of a sufficient number of implementations, as required for the evaluation of the current implementation status.

3. References

3.1. Normative References

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3.2. Informative References

- [RFC6052] Bao, C., Huitema, C., Bagnulo, M., Boucadair, M., and X. Li, "IPv6 Addressing of IPv4/IPv6 Translators", RFC 6052, DOI 10.17487/RFC6052, October 2010, <<https://www.rfc-editor.org/info/rfc6052>>.
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