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Guidelines for IANA DNS Root Zone Publication List Providers
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Abstract

This document describes guidelines for entities that wish to publish a list of URLs from where the contents of the IANA DNS root zone may be obtained. These guidelines are specifically provided as guidance to IANA, but these suggestions may be applicable to any entity wishing to build a list of IANA DNS root zone sources for their own purposes.

About This Document

This note is to be removed before publishing as an RFC.

The latest revision of this draft can be found at <https://github.io/hardker/draft-hardaker-dnsop-root-zone-publication-list-guidelines/draft-hardaker-dnsop-root-zone-publication-list-guidelines.html>. Status information for this document may be found at <https://datatracker.ietf.org/doc/draft-hardaker-dnsop-root-zone-pub-list-guidelines/>.

Discussion of this document takes place on the Domain Name System Operations Working Group mailing list (<mailto:dnsop@ietf.org>), which is archived at <https://mailarchive.ietf.org/arch/browse/dnsop/>. Subscribe at <https://www.ietf.org/mailman/listinfo/dnsop/>.

Source for this draft and an issue tracker can be found at <https://github.com/https://github.com/hardaker/draft-hardaker-dnsop-root-zone-publication-list-guidelines>.

Status of This Memo

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

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This Internet-Draft will expire on 24 July 2026.

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1. Introduction

This document describes guidelines for entities that wish to publish a list of URLs from where the contents of the IANA DNS root zone may be obtained. These guidelines are specifically provided as guidance to IANA, but these suggestions may be applicable to any entity wishing to build a list of IANA DNS root zone sources for their own purposes.

When implementing a LocalRoot or similar service, as described in [draft-wkumari-dnsop-localroot-bcp], the contents of the DNS root zone need to be obtained. Because the contents of the IANA DNS root zone are cryptographically verifiable, it may be obtained from any source assuming integrity verification has been performed.

Entities, such as IANA, will need to publish a list of acceptable sources that LocalRoot enabled resolvers can use to routinely fetch and serve or cache the contents of the IANA DNS root zone. The guidelines in this document are intended to provide advice to IANA or any other entity wishing to build such a list of sources.

A separate document [draft-hardaker-dnsop-iana-root-zone-publication-points] describes the format of the IANA published list, along with IANA considerations that request the list's publication.

2. Conventions and Definitions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in BCP 14 [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

3. Guidelines for building a IANA DNS root zone publication list

The following describes the community established guidelines when developing a list of IANA DNS root zone publication points:

3.1. Guidelines related to the list of publication points

- * the list of publication points must be machine readable
- * the list of publication points must not be limited to a particular size.
- * the list of publication points should include publication points hosted from multiple organizations.
- * the list of publication points should include a service endpoint from IANA itself.
- * the list of publication points must be verifiable as complete through the use of a cryptographic checksum.
- * the list of publication points should be cryptographically verifiable as to its origin.

- * the list of publication points should include multiple protocols that can be used for fetching the IANA root zone data. Specifically the list should include both https and AXFR based sources.
- * each item in the list of publication points must be individually complete and usable in isolation.
- * each item in the list of publication points must be a unique URL.
- * each item in the list of publication points should be routinely verified as to its functioning status or else removed from the list.

3.2. Guidelines related to entries in the list of publication points

- * each publication point should make use of widely geographically distributed service points.
- * each publication point must be globally available without imposed source-based or other filtering.
- * https based publication points should offer service equivalent to existing Content Delivery Networks (CDNs) today.
- * AXFR, IXFR and XoT publication points should be as robust as the existing DNS root servers that offer similar services today.
- * each publication point should have a service level agreement, ideally at zero cost, with IANA.

4. Security Considerations

TBD

5. IANA Considerations

IANA may wish to carefully consider the suggestions in this document when building a list of IANA DNS root zone publication points.

6. References

6.1. Normative References

[draft-wkumari-dnsop-localroot-bcp]
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- [RFC9103] Toorop, W., Dickinson, S., Sahib, S., Aras, P., and A. Mankin, "DNS Zone Transfer over TLS", RFC 9103, DOI 10.17487/RFC9103, August 2021, <<https://www.rfc-editor.org/rfc/rfc9103>>.

6.2. Informative References

- [draft-hardaker-dnsop-iana-root-zone-publication-points] "A format for publishing a list of sources of IANA root zone data", n.d., <<https://github.com/hardaker/draft-hardaker-dnsop-iana-root-zone-publication-points>>.
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TBD

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