

CBOR Working Group
Internet-Draft
Intended status: Standards Track
Expires: November 8, 2020

M. Jones
A. Nadalin
Microsoft
J. Richter
pdv Financial Software GmbH
May 7, 2020

Concise Binary Object Representation (CBOR) Tags for Date
draft-ietf-cbor-date-tag-00

Abstract

The Concise Binary Object Representation (CBOR, [RFC 7049](#)) is a data format whose design goals include the possibility of extremely small code size, fairly small message size, and extensibility without the need for version negotiation.

In CBOR, one point of extensibility is the definition of CBOR tags. [RFC 7049](#) defines two tags for time: CBOR tag 0 ([RFC 3339](#) date/time string) and tag 1 (Posix "seconds since the epoch"). Since then, additional requirements have become known. This specification defines a CBOR tag for an [RFC 3339](#) date text string, for applications needing a textual date representation without a time. It also defines a CBOR tag for days since the Posix epoch, for applications needing a numeric date representation without a time. It is intended as the reference document for the IANA registration of the CBOR tags defined.

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 November 8, 2020.

Copyright Notice

Copyright (c) 2020 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 Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

Table of Contents

1.	Introduction	2
1.1.	Requirements Notation and Conventions	3
2.	IANA Considerations	3
2.1.	Concise Binary Object Representation (CBOR) Tags Registrations	3
3.	Security Considerations	3
4.	References	3
4.1.	Normative References	3
4.2.	Informative References	4
	Acknowledgements	4
	Document History	4
	Authors' Addresses	4

[1.](#) Introduction

The Concise Binary Object Representation (CBOR) [[RFC7049](#)] provides for the interchange of structured data without a requirement for a pre-agreed schema. [RFC 7049](#) defines a basic set of data types, as well as a tagging mechanism that enables extending the set of data types supported via an IANA registry.

This specification defines a CBOR tag for a text string representing a date but not a time. The tagged text string is represented as specified by the [RFC 3339](#) [[RFC3339](#)] "full-date" production.

This specification also defines a CBOR tag for an integer representing a date but not a time. The tagged integer is a positive or negative value indicating the number of days since the IEEE Std 1003.1, 2013 Edition [[POSIX.1](#)] epoch date 1970-01-01.

1.1. Requirements Notation and Conventions

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.

2. IANA Considerations

2.1. Concise Binary Object Representation (CBOR) Tags Registrations

This section registers the following values in the IANA "Concise Binary Object Representation (CBOR) Tags" registry [[IANA.cbor-tags](#)].

- o Tag: 1004 (value requested)
- o Data Item: UTF-8 text string
- o Semantics: [RFC 3339](#) full-date string
- o Reference: [[this specification]]

- o Tag: 100 (ASCII 'd') (value requested)
- o Data Item: Positive or negative integer
- o Semantics: Number of days since the epoch date 1970-01-01
- o Reference: [[this specification]]

3. Security Considerations

The security considerations of [RFC 7049](#) apply; the tags introduced here are not expected to raise security considerations beyond those.

A date, of course, has significant security considerations; these include the exploitation of ambiguities where the date is security relevant or where the date is used in access control decisions.

4. References

4.1. Normative References

- [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>>.
- [RFC3339] Klyne, G. and C. Newman, "Date and Time on the Internet: Timestamps", [RFC 3339](#), DOI 10.17487/RFC3339, July 2002, <<https://www.rfc-editor.org/info/rfc3339>>.

- [RFC7049] Bormann, C. and P. Hoffman, "Concise Binary Object Representation (CBOR)", [RFC 7049](#), DOI 10.17487/RFC7049, October 2013, <<https://www.rfc-editor.org/info/rfc7049>>.
- [RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in [RFC 2119](#) Key Words", [BCP 14](#), [RFC 8174](#), DOI 10.17487/RFC8174, May 2017, <<https://www.rfc-editor.org/info/rfc8174>>.

[4.2.](#) Informative References

- [IANA.cbor-tags]
IANA, "Concise Binary Object Representation (CBOR) Tags",
<<http://www.iana.org/assignments/cbor-tags>>.
- [POSIX.1] IEEE, "The Open Group Base Specifications Issue 7",
IEEE Std 1003.1, 2013 Edition, 2013,
<http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/V1_chap04.html#tag_04_15>.

Acknowledgements

Thanks to Carsten Bormann for supporting creation of this specification. Parts of the explanatory text in this specification come from [draft-bormann-cbor-time-tag-02](#).

Document History

[[to be removed by the RFC Editor before publication as an RFC]]

-00

- o Initial working group version based on [draft-jones-cbor-date-tag-01](#) with no normative changes.

Authors' Addresses

Michael B. Jones
Microsoft

Email: mbj@microsoft.com
URI: <https://self-issued.info/>

Anthony Nadalin
Microsoft

Email: tonynad@microsoft.com

Joerg Richter
pdv Financial Software GmbH

Email: joerg.richter@pdv-fs.de