

Network Working Group
Internet-Draft
Updates: [8520](#) (if approved)
Intended status: Standards Track
Expires: 26 October 2022

E. Lear
Cisco Systems
C. Bormann
Universität Bremen TZI
24 April 2022

Ownership and licensing statements in YANG
draft-ietf-opsawg-ol-01

Abstract

This memo provides for an extension to [RFC 8520](#) that allows MUD file authors to specify ownership and licensing of MUD files themselves. This memo updates [RFC 8520](#). However, it can also be used for purposes outside of MUD, and the grouping is structured as such.

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 26 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.

Internet-Draft

Owner and Licensing Statements

April 2022

Table of Contents

1.	Introduction	2
2.	The owner-license extension and model	3
3.	The YANG schema for ownership and licensing	3
4.	Extension for MUD	5
5.	Example	5
6.	Security Considerations	6
7.	IANA Considerations	6
7.1.	MUD Extension	6
8.	Normative References	7
Appendix A.	Changes from Earlier Versions	7
	Authors' Addresses	8

[1.](#) Introduction

[RFC8520] Manufacturer Usage Descriptions (MUD) can be used to describe devices and their requirements to the network infrastructure. The original version of the specification does not provide for a means to specify ownership and licensing of the MUD file itself. This can hinder those wishing to use, modify, or adapt MUD files for the purpose of offering them, when the manufacturer is not involved.

* *Issue*: Should this be an owner or an originator?

To avoid any confusion, we define an extension that allows for specifying of owners and licensing terms for MUD files.

Those generating MUD files SHOULD use this extension, and thus this extension updates [RFC 8520](#).

There are two ways to specify a license: a URL pointing to the license itself or an SPDX tag [[SPDX](#)]. If an SPDX tag is supplied consumers MUST interpret that tag through its meaning as specified by [[SPDX](#)].

* *Issue*: Should we simply say that a URI contains a colon and SPDX license identifier doesn't?

This grouping may be used for other YANG models that reside as static objects.

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.](#) The owner-license extension and model

Because the model is primarily motivated by MUD, and based on the way that YANG trees are formed, the model appears as an augmentation for MUD.

```
module: ietf-ol
```

```
augment /mud:mud:
  +--rw ol
    +--rw owners*          string
    +--rw (license-type)?
      +--:(spdx-lt)
      | +--rw spdx-tag?    string
      +--:(url)
        +--rw license-info? inet:uri
```

- * *Issue*: Should different owners possibly have their own license types? (Logical and, derived works.)
- * *Issue*: Should a single owner possibly have multiple license types? (Logical or, multi-licensing.)

[3.](#) The YANG schema for ownership and licensing

The following grouping and augmentation are proposed.

```
<CODE BEGINS>
file "ietf-ol@2021-05-21.yang"
module ietf-ol {
  yang-version 1.1;
  namespace "urn:ietf:params:xml:ns:yang:ietf-ol";
  prefix ol;

  import ietf-inet-types {
    prefix inet;
```

```
}

import ietf-mud {
  prefix mud;
}

organization
  "IETF OPSAWG (Ops Area) Working Group";
contact
  "WG
  Web: http://tools.ietf.org/wg/opsawg/
```

Lear & Bormann

Expires 26 October 2022

[Page 3]

Internet-Draft

Owner and Licensing Statements

April 2022

```
WG List: opsawg@ietf.org
Author: Eliot Lear lear@cisco.com
Author: Carsten Bormann <cabo@tzi.org>;
```

```
description
```

```
"This YANG module to indicate ownership and licensing.
```

```
Copyright (c) 2021 IETF Trust and the persons identified as
authors of the code. All rights reserved.
```

```
Redistribution and use in source and binary forms, with or
without modification, is permitted pursuant to, and subject to
the license terms contained in, the Simplified BSD License set
forth in Section 4.c of the IETF Trust's Legal Provisions
Relating to IETF Documents
(https://trustee.ietf.org/license-info).
```

```
This version of this YANG module is part of RFC XXXX
(https://www.rfc-editor.org/info/rfcXXXX);
see the RFC itself for full legal notices.
```

```
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 \(RFC 2119\) (RFC 8174) when, and only when,
they appear in all capitals, as shown here.  ";
```

```
revision 2021-05-21 {
```

```
  description
```

```
    "Initial proposed standard.";
```

```

reference
  "RFC XXXX: Extension for ownership and licensing";
}

grouping ol-extension {
  description
    "OL extension grouping";
  container ol {
    description
      "container relating to ownership and licensing.";
    leaf-list owners {
      type string;
      description
        "A list of owners, may be in the form of a copyright
        Example: Copyright (c) Jane Smith. All rights Reserved.";
    }
    choice license-type {
      description "Either choose a standard license type or point
        to one of your own.";
    }
  }
}

```

```

case spdx-lt {
  leaf spdx-tag {
    type string;
    description "SPDX License Identifier, as indicated at
      https://spdx.org/licenses/";
  }
}
case url {
  leaf license-info {
    type inet:uri;
    description "A URL pointing to licensing information.";
  }
}
}
}

augment "/mud:mud" {
  description
    "Add extension for Ownership and licensing.";
  uses ol-extension;
}

```

```
}  
<CODE ENDS>
```

4. Extension for MUD

MUD files using this extension MUST include "ol" in the extensions array, as specified by [\[RFC8520\]](#).

5. Example

In this example, the Frobmaster company is using the 0BSD SPDX tag to indicate a relatively open license. The "ol" extension and container are present. There is a single owner listed.

```
{  
  "ietf-mud:mud": {  
    "mud-version": 1,  
    "extensions": [  
      "ol"  
    ],  
    "ol": {  
      "owners": [  
        "Copyright (c) FrobMaster 2021. All Rights Reserved"  
      ],  
      "spdx-tag": "0BSD"  
    },  
    "mud-url": "https://frobs.example.com/mud/Frob.json",  
    "mud-signature": "https://frobs.example.com/mud/Frob.p7s",  
    "last-update": "2021-05-24T11:26:04+00:00",
```

```
    "cache-validity": 48,  
    "is-supported": true,  
    "systeminfo": "This device helps produce frobs",  
    "mfg-name": "FrobMaster",  
    "documentation": "https://frobs.example.com/doc",  
    "model-name": "Frobinator"  
  }  
}
```

* *Task*: need Makefile for validating this against MUD. (Probably put this into a separate file, too.)

* *Issue*: Should we give an example for usage outside yang?

6. Security Considerations

The security considerations of [Section 16 of \[RFC8520\]](#) with respect to obtaining validation for information claimed in a MUD file do apply. While the information described in this specification is not intended to directly influence the behavior of protective infrastructure, it may be used by an aggregator as input for deciding the legal basis that enables providing aggregated information; depending on the juridical environment, false information in the MUD file may thus expose the aggregator to additional legal risk.

7. IANA Considerations

7.1. MUD Extension

The IANA is requested to add "ol" to the MUD extensions registry of [\[IANA.mud\]](#) as follows:

Extension Name:

ol

Standard reference:
This document

8. Normative References

[IANA.mud] IANA, "Manufacturer Usage Description (MUD)",

<<https://www.iana.org/assignments/mud>>.

- [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>>.
- [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>>.
- [RFC8520] Lear, E., Droms, R., and D. Romascanu, "Manufacturer Usage Description Specification", [RFC 8520](#), DOI 10.17487/RFC8520, March 2019, <<https://www.rfc-editor.org/info/rfc8520>>.
- [SPDX] The Linux Foundation, "SPDX Specification 2.1", 2016.

[Appendix A](#). Changes from Earlier Versions

Draft -01:

- * Format IANA considerations
- * Discuss security considerations

Draft -00:

- * Resubmit unchanged

Individual Draft -01:

- * Add some issues
- * correct spacing

Individual Draft -00:

- * Initial revision

Eliot Lear
Cisco Systems
Richtistrasse 7
CH-8304 Wallisellen
Switzerland
Phone: +41 44 878 9200
Email: lear@cisco.com

Carsten Bormann
Universität Bremen TZI
Postfach 330440
D-28359 Bremen
Germany
Email: cabo@tzi.org