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YANG Data Model for IS-IS L2 Bundle Member Link Attributes PICS
draft-ietf-lsr-isis-pics-l2member-attr-yang-03

Abstract

The YANG model in this document is to query an IS-IS Protocol Implementation Conformance Statement (PICS) of advertising Layer 2 Bundle Member Link Attributes.

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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1. Overview

[I-D.ietf-lsr-isis-pics-yang] defines the framework to query IS-IS Protocol Implementation Conformance Statement (PICS). The module defined in this document is used to query an IS-IS PICS of advertising Layer 2 Bundle Member Link Attributes [RFC8668].

The YANG modules in this document conform to the Network Management Datastore Architecture (NMDA) [RFC8342].

1.1. 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 [RFC2119] [RFC8174].

2. Design of the Model

The YANG module is used to query an IS-IS implementation of advertising L2 bundle member link attributes [RFC8668] for the conformance of the protocol implementation.

Container "isis-pics-l2-member-attr" only exists when "isis-pics-l2-member-attr" is included in the list of "supported-isis-pics" in ietf-isis-pics module.

The existence of a TLV support container means the support of a TLV. The details of the flags and features are included in the container.

3. ISIS PICS for L2 Bundle Member Attributes Tree

This document uses the graphical representation of data models defined in [RFC8340].

```
module: ietf-isis-pics-l2-member-attr
  +--ro isis-pics-l2-member-attr
     +--ro l2-bundle-member-attributes-tlv-support!
        +--ro shared-attribute-sub-tlv-support*   uint8

  augment /isis-pics:isis-pics/isis-pics:isis-pics-mptlv:
    +--ro l2-bundle-member-attributes-support?   isis-pics:support
```

4. IS-IS PICS SR-MPLS YANG Modules

```
<CODE BEGINS> file "ietf-isis-pics-l2-member-attr@2025-05-05.yang"
module ietf-isis-pics-l2-member-attr {
  yang-version 1.1;
  namespace "urn:ietf:params:xml:ns:yang:ietf-isis-pics-l2-member-attr";
  prefix isis-pics-l2-mem-attr;

  import iana-isis-pics {
    prefix "iana-isis-pics";
  }

  import ietf-isis-pics {
    prefix "isis-pics";
  }

  organization
    "IETF LSR - Link State Routing Working Group";
  contact
    "WG Web:   <http://datatracker.ietf.org/wg/lsr>
     WG List:  <mailto:lsr@ietf.org>

     Author:   Yingzhen Qu
               <mailto:yingzhen.ietf@gmail.com>
     Author:   Les Ginsberg
               <mailto:ginsberg@cisco.com>
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               <mailto:prz@juniper.net>
     Author:   Bruno Decraene
               <bruno.decraene@orange.com>
     Author:   Yongqing Zhu
               <mailto:zhuyq8@chinatelecom.cn>";

  description
```

```
    "The YANG module is used to query an IS-IS Protocol
     Implementation Conformance Statement (PICS) of Advertising
     Layer 2 Bundle Member Link Attributes in IS-IS (RFC8668).

     This YANG model conforms to the Network Management
     Datastore Architecture (NMDA) as described in RFC 8342.

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     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.";

  reference
    "RFC XXXX: YANG Data Model for IS-IS Layer 2 Link Attributes
               PICS";

  revision 2025-05-05 {
    description
      "Initial Version";
    reference
      "RFC XXXX: YANG Data Model for IS-IS Layer 2 Link Attributes
                 PICS.";
  }

  container isis-pics-l2-member-attr {
    when "/isis-pics:isis-pics/isis-pics:supported-isis-pics "
       + "= 'iana-isis-pics:isis-pics-l2-member-attr'" {
      description
        "This container only exists when isis-pics-l2-member-attr
         is present in the ietf-isis-pics module.";
    }
    config false;
    description
      "IS-IS Protocol Implementation Conformance Statement (PICS) of
       Advertising Layer 2 Bundle Member Link Attributes.";
    reference
       "RFC 8668: Advertising Layer 2 Bundle Member Link Attributes
                  in IS-IS";
```

```
    container l2-bundle-member-attributes-tlv-support {
      presence "Support of L2 bundle member attributes tlv.";
      description
        "Support of L2 bundle member attributes tlv (Type 25).";

      leaf-list shared-attribute-sub-tlv-support {
        type uint8;
        description
          "List of sub-tlvs supported for advertising neighbor
           information.";
        reference
          "IANA registry:IS-IS Sub-TLVs for TLVs Advertising Neighbor
           Information. https://www.iana.org/assignments
           /isis-tlv-codepoints/isis-tlv-codepoints.xhtml#
           isis-tlv-codepoints-advertising-neighbor-information";
      }
    }
  }


  augment "/isis-pics:isis-pics/isis-pics:isis-pics-mptlv"
  {
    description
      "Augment isis-pics-mptlv container with the tlvs defined
       in RFC 8668.";

    leaf l2-bundle-member-attributes-support {
      type isis-pics:support;
      description
        "MP-TLV support of L2 bundle member attributes tlv (Type 25).";
    }
  }
}
<CODE ENDS>
```

5. Security Considerations

The YANG modules defined in this document are designed to be accessed via YANG-based management protocols, such as NETCONF [RFC6241] and RESTCONF [RFC8040]. These protocols have to use a secure transport layer (e.g., SSH [RFC4252], TLS [RFC8446], and QUIC [RFC9000]) and have to use mutual authentication.

The Network Configuration Access Control Model (NACM) [RFC8341] provides the means to restrict access for particular NETCONF or RESTCONF users to a preconfigured subset of all available NETCONF or RESTCONF protocol operations and content.

Some of the readable data nodes in the ietf-isis-pics-l2-member-attr.yang module may be considered sensitive or vulnerable in some network environments. It is thus important to control read access (e.g., via get, get-config, or notification) to these data nodes.

6. IANA Considerations

The document requests IANA to create a entry, called isis-pics-sr-mpls in the "IS-IS PICS" registry [I-D.ietf-lsr-isis-pics-yang].

This document requests IANA to add a new "identity" to the iana-isis-pics YANG module. The following statement is suggested:

```
identity isis-pics-l2-member-attr {
 base "isis-pics";
 description
    "The identity for IS-IS PICS support of L2 bundle member link
     attributes.";
  reference
    "RFC 8668: Advertising Layer 2 Bundle Member Link Attributes
                in IS-IS";
}
```

This document registers a URI in the IETF XML registry [RFC3688]. Following the format in [RFC3688], the following registration is requested to be made:

```
URI: urn:ietf:params:xml:ns:yang:ietf-isis-pics-l2-member-attr
Registrant Contact: The IESG.
XML: N/A, the requested URI is an XML namespace.
```

This document registers a YANG module in the YANG Module Names registry [RFC6020].

```
name: ietf-isis-pics-l2-member-attr
namespace: urn:ietf:params:xml:ns:yang:ietf-isis-pics-l2-member-attr
prefix: isis-pics-l2-mem-attr
reference: RFC XXXX
```

7. Acknowledgements

The YANG model was developed using the suite of YANG tools written and maintained by numerous authors.

8. Normative References

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