

# LSR YANG UPDATE

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*On behalf of all co-authors*

IETF 125 LSR

# ***Published!***



RFC 9129 - YANG Data Model For The OSPF Protocol

RFC 9130 - YANG Data Model For The IS-IS Protocol

RFC 9134 - YANG Module For IS-IS Reverse Metric

RFC 9587 - YANG Data Module For OSPFv3 Extended Link State Advertisements (LSAs)

*RFC9825 - Extensions to OSPF for Advertising Prefix Administrative Tags*

RFC 9902 - A YANG Data Model For IS-IS Segment Routing over the MPLS Data Plane

RFC 9903 - A YANG Data Model For OSPF Segment Routing over the MPLS Data Plane

- Includes both OSPFv2 and OSPFv3

# Experimental: YANG support with specification together

- OSPFv2 Anycast Property Advertisement – draft-ietf-lsr-anycast-flag
  - ietf-ospf-anycast-flag
- Advertising Unreachable Links in OSPF - draft-ietf-lsr-ospf-ls-link-infinity
  - iana-ospf-functional-cap-bits - reflects the 'OSPF Router Functional Capability Bits' registry.
  - ietf-ospf-functional-capability - the operational state for Functional Capability in OSPF as defined in RFC 7770.
  - ietf-ospf-unreachable-links - the configuration and operational state for Advertising Unreachable Links

# YANG Data Model for OSPF/IS-IS Application-Specific Link Attributes and Flexible Algorithm

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## draft-ietf-lsr-ospf-flex-algo-yang

- IANA IGP Algorithm Types Module
- IANA IGP Metric Types Module
- YANG Module for OSPF Application-Specific Link Attributes
- YANG Module for OSPF Flexible Algorithm

## draft-ietf-lsr-isis-flex-algo-yang

- YANG Module for IS-IS Application-Specific Link Attributes
- YANG Module for IS-IS Flexible Algorithm

In IETF Last Call (ends 2026-03-30)

# IANA Modules

```
leaf metric-type {
  type identityref {
    base iana-metric-type:metric-type;
  }
  default iana-metric-type:igp-metric;
  description
    "Type of metric to be used during the calculation.";
}
```

```
identity algo-type {
  description
    "Base identity for IGP Algorithm Type. The algorithm types
    are defined in IANA IGP Algorithm Types registry.";
}

identity algo-spf {
  base algo-type;
  description
    "Shortest Path First (SPF) algorithm based on link metric.";
  reference
    "RFC 8665: OSPF Extensions for Segment Routing";
}

identity algo-strict-spf {
  base algo-type;
  description
    "Strict Shortest Path First (SPF) algorithm based on link
    metric.";
  reference
    "RFC 8665: OSPF Extensions for Segment Routing";
}
```

IETF 125 LSR

```
identity metric-type {
  description
    "Base identity for IGP Metric-Type. The metric types
    are defined in IANA IGP Metric-Type registry.";
}

identity igp-metric {
  base metric-type;
  description
    "IGP Metric.";
  reference
    "RFC9350: IGP Flexible Algorithm";
}

identity min-unidirectional-link-delay {
  base metric-type;
  description
    "Min Unidirectional Link Delay as defined in RFC8570
    Section 4.2 and RFC7471 Section 4.2.";
  reference
    "RFC9350: IGP Flexible Algorithm";
}

identity te-default-metric {
  base metric-type;
  description
    "Traffic Engineering Default Metric as defined in RFC5305
    Section 3.7 and Traffic Engineering Metric as defined in
    RFC3630, Section 2.5.5.";
  reference
    "RFC9350: IGP Flexible Algorithm";
}

identity bandwidth-metric {
  base metric-type;
  description
    "Bandwidth metric.";
  reference
    "draft-ietf-lsr-flex-algo-bw-con";
}
```

# OSPF YANG Model Augmentations for Additional Features – Release 1



- RFC5329: Traffic engineering Extensions to OSPF Version 3
- RFC5392: OSPF Extensions in Support of Inter-Autonomous System (AS) MPLS and GMPLS Traffic Engineering
- RFC8042: OSPF Two-Part Metric
- RFC8379: OSPF Graceful Link Shutdown
- RFC8510: OSPF Link-Local Signaling (LLS) Extensions for Local Interface ID Advertisement
- RFC9356: Advertising Layer 2 Bundle Member Link Attributes in OSPF
- RFC9843: IGP Flexible Algorithms: Bandwidth, Delay, Metrics and Constraints

# IS-IS YANG Model Augmentations for Additional Features – Release 1

- RFC7987: IS-IS Minimum Remaining Lifetime
- RFC8941: Signaling Maximum SID Depth (MSD) using IS-IS
- RFC 9843: IGP Flexible Algorithms: Bandwidth, Delay, Metrics and Constraints

# IS-IS Protocol Implementation Conformance Statement (PICS)

- draft-ietf-lsr-isis-pics-yang

- iana-isis-pics.yang

A new IANA registry will be created for IS-IS PICS, which maintains the list of RFCs that support IS-IS PICS.

- ietf-isis-pics.yang

A device model and designed to query a node with IS-IS PICS status. The leaf-list of "isis-pics" lists all the supported PICS that defined in the iana-isis-pics module.

- draft-ietf-lsr-isis-pics-srmppls-yang

To query an IS-IS implementation of Segment Routing on MPLS data plane [RFC8667].

- draft-ietf-lsr-isis-pics-l2member-attr-yang

To query an IS-IS implementation of advertising Layer 2 Bundle Member Link Attributes [RFC8668].

# OSPF and ISIS SRv6 YANG


**draft-ietf-lsr-ospf-srv6-yang**

**draft-ietf-lsr-isis-srv6-yang**

- Back burner, dependency on SPRING SRv6 YANG model

# Summary of Sequence

draft-ietf-lsr-ospf-flex-algo-yang  
draft-ietf-lsr-ospf-flex-algo-yang



draft-ietf-lsr-isis-pics\*



draft-ietf-lsr-isis-yang-augmentation-v1  
draft-ietf-lsr-ospf-yang-augmentation-v1



draft-ietf-lsr-isis-srv6-yang  
draft-ietf-lsr-ospf-srv6-yang



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**THANK YOU**