



Supported YANG Models in NCS 1014

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Supported Yang Models

The following is the list of supported config, oper, and act YANG models for NCS 1014:

Table 1: Native Models

Config Models	Oper Models
Cisco-IOS-XR-osa-linesystem-cfg.yang	Cisco-IOS-XR-osa-hwmod-linesys-oper.yang
Cisco-IOS-XR-controller-ots-cfg.yang	Cisco-IOS-XR-controller-ots-oper.yang
Cisco-IOS-XR-ots-och-cfg.yang	Cisco-IOS-XR-controller-ots-och-oper.yang
Cisco-IOS-XR-controller-oms-cfg	Cisco-IOS-XR-controller-oms-oper.yang
Cisco-IOS-XR-controller-och-cfg	Cisco-IOS-XR-controller-och-oper.yang
Cisco-IOS-XR-controller-osc-cfg.yang	Cisco-IOS-XR-controller-osc-oper.yang
Cisco-IOS-XR-controller-dfb-cfg.yang	Cisco-IOS-XR-controller-dfb-oper.yang
Cisco-IOS-XR-pmengine-cfg.yang	Cisco-IOS-XR-pmengine-oper.yang
Cisco-IOS-XR-olc-cfg.yang	Cisco-IOS-XR-olc-oper.yang
Cisco-IOS-XR-fpd-infra-cfg.yang	
Cisco-IOS-XR-osa-ct-cfg.yang	Cisco-IOS-XR-osa-controller-optics-oper.yang
Cisco-IOS-XR-osa-sp-cfg.yang	Cisco-IOS-XR-osa-hwmod-linesys-oper.yang
Cisco-IOS-XR-osa-cfg.yang	Cisco-IOS-XR-osa-oper.yang
Cisco-IOS-XR-ikev2-cfg.yang	Cisco-IOS-XR-ikev2-oper.yang
Cisco-IOS-XR-controller-optics-cfg.yang	Cisco-IOS-XR-controller-optics-oper.yang

Config Models	Oper Models
Cisco-IOS-XR-ethernet-lddp-cfg.yang	Cisco-IOS-XR-ethernet-lddp-oper.yang
Cisco-IOS-XR-telemetry-model-driven-cfg.yang	Cisco-IOS-XR-telemetry-model-driven-oper.yang
Cisco-IOS-XR-ifmgr-cfg.yang	Cisco-IOS-XR-envmon-oper.yang
Cisco-IOS-XR-fpd-infra-cfg.yang	Cisco-IOS-XR-show-fpd-loc-ng-oper.yang
Cisco-IOS-XR-invproxy-hwmodule-cfg.yang	Cisco-IOS-XR-procfind-oper.yang
Cisco-IOS-XR-syncc-controller-cfg.yang	Cisco-IOS-XR-procthreadname-oper.yang
Cisco-IOS-XR-drivers-media-eth-gl-pfc-wd-cfg.yang	Cisco-IOS-XR-invmgr-oper.yang
Cisco-IOS-XR-drivers-media-eth-cfg.yang	Cisco-IOS-XR-plat-chas-invmgr-ng-oper.yang
Cisco-IOS-XR-drivers-icpe-ethernet-cfg.yang	Cisco-IOS-XR-platform-oper.yang
Cisco-IOS-XR-drivers-media-eth-cfg.yang	Cisco-IOS-XR-invmgr-diag-oper.yang
Cisco-IOS-XR-drivers-media-eth-gl-pfc-wd-cfg.yang	Cisco-IOS-XR-nto-misc-oper.yang
Cisco-IOS-XR-sysmgr-cfg.yang	Cisco-IOS-XR-wd-oper.yang
Cisco-IOS-XR-um-ncs-hw-module-osa-cfg.yang	Cisco-IOS-XR-ledmgr-oper.yang
	Cisco-IOS-XR-shellutil-filesystem-oper.yang
	Cisco-IOS-XR-shellutil-oper.yang
	Cisco-IOS-XR-drivers-media-eth-oper.yang
	Cisco-IOS-XR-mediasvr-linux-oper.yang
	Cisco-IOS-XR-drivers-media-eth-oper.yang
	Cisco-IOS-XR-sysmgr-oper.yang
	Cisco-IOS-XR-procmem-oper.yang
	Cisco-IOS-XR-procfind-oper.yang
Act Models	
Cisco-IOS-XR-upgrade-fpd-ng-act.yang	
Cisco-IOS-XR-shellutil-delete-act.yang	
Cisco-IOS-XR-drivers-media-eth-act.yang	
Cisco-IOS-XR-shellutil-copy-act.yang	
Cisco-IOS-XR-shellutil-copy-act.yang	
Cisco-IOS-XR-drivers-media-eth-act.yang	
Cisco-IOS-XR-sysmgr-act.yang	

Config Models	Oper Models
Cisco-IOS-XR-system-reboot-act	
Cisco-IOS-XR-install-act.yang	
Cisco-IOS-XR-install-augmented-act	
Cisco-IOS-XR-drivers-media-eth-clear-prbs-act.yang	

The following is the list of supported Open Config models:

Table 2: OpenConfig Models

openconfig-platform.yang
openconfig-platform-transceiver.yang
openconfig-terminal-device.yang
openconfig-interfaces.yang
openconfig-system.yang
openconfig-network-instance
openconfig-procmon.yang

See <https://cfng.cisco.com/ios-xr/yang-explorer/view-data-model> for the list of Yang models supported by NCS 1014.

Extending Cisco Native Models for OpenConfig Support

Table 3: Feature History

Feature Name	Release Information	Feature Description
Extending Cisco Native Models for OpenConfig Support	Cisco IOS XR Release 24.3.1	The OpenConfig model is completely supported on NCS 1014 chassis, by extending the existing Cisco native model configuration. It supports the Q-margin and Enhanced Q-margin parameters as part of the extended OpenConfig model.

From R24.3.1 onwards, OpenConfig augmentation support is available for NCS 1014. For any configuration parameters that exist in the Cisco native model but are not included in the OpenConfig model, then such parameters can be added to the OpenConfig model by extending the existing Cisco native model.

Benefits of Using OpenConfig Augmentation

OpenConfig augmentation allows NCS 1014 chassis to be fully managed using OpenConfig models.

Purpose of OpenConfig Augmentation for Cisco Native Models

The purpose is to identify errors in signal transmission by including Q margin and Enhanced Q margin values in the OpenConfig model, which requires adding them as extended leaves within the existing open terminal model configuration.

Enabling OpenConfig Augmentation Support for Cisco Native Models

To enable OpenConfig Augmentation support for Cisco native models in the terminal device refer to the given example.

The entry highlighted in bold shows the newly added OpenConfig model as an extension to the existing Cisco native model.

```
module: openconfig-terminal-device
  +--rw terminal-device
    +--rw config
    +--ro state
    +--rw logical-channels
      | +--rw channel* [index]
      |   +--rw index                                -> ../config/index
      |   +--rw config
      |     | +--rw index?                          uint32
      |     | +--rw description?                     string
      |     | +--rw admin-state?                    oc-opt-types:admin-state-type
      |     | +--rw rate-class?                      identityref
      |     | +--rw trib-protocol?                   identityref
      |     | +--rw logical-channel-type?            identityref
      |     | +--rw loopback-mode?                  oc-opt-types:loopback-mode-type
      |     | +--rw test-signal?                     boolean
      |   +--ro state
      |     | +--ro index?                          uint32
      |     | +--ro description?                     string
      |     | +--ro admin-state?                    oc-opt-types:admin-state-type
      |     | +--ro rate-class?                      identityref
      |     | +--ro trib-protocol?                   identityref
      |     | +--ro logical-channel-type?            identityref
      |     | +--ro loopback-mode?                  oc-opt-types:loopback-mode-type
      |     | +--ro test-signal?                     boolean
      |     | +--ro link-state?                     enumeration
      |   +--rw otn
      |     | +--rw config
      |     |   | +--rw tti-msg-transmit?            string
      |     |   | +--rw tti-msg-expected?            string
      |     |   | +--rw tti-msg-auto?                boolean
      |     |   | +--rw tributary-slot-granularity?  identityref
      |     |   +--ro state
      |     |     | +--ro tti-msg-transmit?          string
      |     |     | +--ro tti-msg-expected?          string
      |     |     | +--ro tti-msg-auto?              boolean
      |     |     | +--ro tributary-slot-granularity? identityref
      |     |     | +--ro tti-msg-recv?              string
      |     |     | +--ro rdi-msg?                  string
      |     |     | +--ro errored-seconds?           yang:counter64
      |     |     | +--ro severely-errored-seconds? yang:counter64
      |     |     | +--ro unavailable-seconds?       yang:counter64
      |     |     | +--ro code-violations?           yang:counter64
      |     |     | +--ro errored-blocks?            yang:counter64
      |     |     | +--ro fec-uncorrectable-blocks?  yang:counter64
      |     |     | +--ro fec-uncorrectable-words?   yang:counter64
      |     |     | +--ro fec-corrected-bytes?       yang:counter64
      |     |     | +--ro fec-corrected-bits?        yang:counter64
      |     |     | +--ro background-block-errors?   yang:counter64
```

```

|         | | | +--ro pre-fec-ber
|         | | | +--ro instant?    decimal64
|         | | | +--ro avg?        decimal64
|         | | | +--ro min?        decimal64
|         | | | +--ro max?        decimal64
|         | | | +--ro interval?   oc-types:stat-interval
|         | | | +--ro min-time?   oc-types:timeticks64
|         | | | +--ro max-time?   oc-types:timeticks64
|         | | | +--ro post-fec-ber
|         | | | +--ro instant?    decimal64
|         | | | +--ro avg?        decimal64
|         | | | +--ro min?        decimal64
|         | | | +--ro max?        decimal64
|         | | | +--ro interval?   oc-types:stat-interval
|         | | | +--ro min-time?   oc-types:timeticks64
|         | | | +--ro max-time?   oc-types:timeticks64
|         | | | +--ro q-value
|         | | | +--ro instant?    decimal64
|         | | | +--ro avg?        decimal64
|         | | | +--ro min?        decimal64
|         | | | +--ro max?        decimal64
|         | | | +--ro interval?   oc-types:stat-interval
|         | | | +--ro min-time?   oc-types:timeticks64
|         | | | +--ro max-time?   oc-types:timeticks64
|         | | | +--ro esnr
|         | | | +--ro instant?    decimal64
|         | | | +--ro avg?        decimal64
|         | | | +--ro min?        decimal64
|         | | | +--ro max?        decimal64
|         | | | +--ro interval?   oc-types:stat-interval
|         | | | +--ro min-time?   oc-types:timeticks64
|         | | | +--ro max-time?   oc-types:timeticks64
|         | | +--ro oc-opt-ext:extended
|         | |   +--ro oc-opt-ext:state
|         | |     +--ro oc-opt-ext:enhanced-q-margin?    decimal64
|         | |     +--ro oc-opt-ext:q-margin
|         | |       +--ro oc-opt-ext:instant?    decimal64
|         | |       +--ro oc-opt-ext:avg?        decimal64
|         | |       +--ro oc-opt-ext:min?        decimal64
|         | |       +--ro oc-opt-ext:max?        decimal64
|         | |       +--ro oc-opt-ext:interval?   decimal64
|         | |       +--ro oc-opt-ext:min-time?   decimal64
|         | |       +--ro oc-opt-ext:max-time?   decimal64
|         | +--rw ethernet
|         |   +--rw config
|         |     | +--rw client-als?    enumeration
|         |     .....
|         |     .....
|
augment /oc-platform:components/oc-platform:component:
+--rw optical-channel
+--rw config
| +--rw frequency?    oc-opt-types:frequency-type
| +--rw target-output-power? decimal64
| +--rw operational-mode? uint16
| +--rw line-port?    -> /oc-platform:components/component/name
+--ro state
| +--ro frequency?    oc-opt-types:frequency-type
| +--ro target-output-power? decimal64
| +--ro operational-mode? uint16
| +--ro line-port?    ->
/oc-platform:components/component/name
| +--ro group-id?    uint32
| .....

```

.....

Augmented Model

This is the augmented model configuration.

The entry highlighted in bold shows the newly added OpenConfig model as an extension to the existing Cisco native model.

```
module Cisco-IOS-XR-openconfig-terminal-device-ext{

  namespace "http://cisco.com/ns/yang/"+
    "Cisco-IOS-XR-openconfig-terminal-device-ext";

  prefix oc-opt-ext;

  import openconfig-platform {
    prefix oc-platform;
  }
  import openconfig-terminal-device {
    prefix oc-opt-term;
  }

  organization "Cisco Systems, Inc.";

  contact
    "Cisco Systems, Inc.
    Customer Service

    Postal: 170 West Tasman Drive
    San Jose, CA 95134

    Tel: +1 800 553-NETS

    E-mail: cs-yang@cisco.com";

  description
    "This module is an extension of optical terminal device model
    and contains the definition of extended parameters for Optical
    Channels in order to optimize the AC1200 settings to get the highest
    performance and spectral efficiency.

    This module contains definitions for the following management objects:
    General Parameters
    Submarine Parameters

    Copyright (c) 2013-2023 by Cisco Systems, Inc.
    All rights reserved.";

  revision 2023-05-08 {
    description
      "Addition of baud-rate configuration";
  }

  revision 2023-02-28 {
    description
      "Addition of input power lower and upper thresholds parameters and
      Fastpoll enable configuration";
    reference "7.8.1";
  }

  revision 2020-08-30 {
    description
      "IOS XR 6.0 revision";
    reference "7.3.1";
```

```

    }

    grouping terminal-device-optical-channel-ext-info {
        description "Submarine parameters for optical channel";
        leaf optics-cd-min {
            type int32 {
                range "-350000..350000";
            }
            description
                "Select min chromatic dispersion (in units of
                ps/nm)";
        }
        leaf optics-cd-max {
            type int32 {
                range "-350000..350000";
            }
            description
                "Select max chromatic dispersion (in units of
                ps/nm)";
            .....
            .....
        }

        augment "/oc-platform:components/oc-platform:component/oc-opt-term:optical-channel" {
            container extended {
                description
                    "Enclosing container for the list of Subsea parameters";

                container config {
                    description
                        "Extended Configuration parameters";
                    leaf rx-voa-target-power {
                        type int32 {
                            range "-190..30";
                        }
                    }
                    description "Receive Target Power in increments of 0.1 dBm
                        Default value is -5 dBm";
                }
                    leaf rx-voa-fixed-ratio {
                        type int32 {
                            range "100..1700";
                        }
                    }
                    description "Receive Ratio of Optical Attenuation in
                        increments of 0.01 dB Default value is 15 dB";
                }
                    leaf fastpoll-sop-enable {
                        type boolean {
                        }
                    }
                    description "Receive Fastpoll status if it is enabled or
                        disabled";
                }
                    uses terminal-device-optical-channel-ext-info;
                }

                container state {

                    config false;

                    description
                        "Extended Operational parameters";
                    .....
                }

            }

        }

    augment
"/oc-opt-term:terminal-device/oc-opt-term:logical-channels/oc-opt-term:channel/oc-opt-term:otn"
{

```

```

        container extended {
augment
"/oc-opt-term:terminal-device/oc-opt-term:logical-channels/oc-opt-term:channel/oc-opt-term:otn"
{
        container extended {
                config false;
                container state {
config false;

leaf enhanced-q-margin {
type decimal64 {
fraction-digits 2;
}
description
"Enhanced Instantaneous Q-Margin Value";
}

        container q-margin {
description
"Q-Margin value in dB with two decimal precision. Values
include the instantaneous, average, minimum, and maximum
statistics. If avg/min/max statistics are not supported,
the target is expected to just supply the instant value";

                leaf instant {
type decimal64 {
fraction-digits 2;
}
description
"The instantaneous value of the q-margin (in units of dB).";
}

                leaf avg {
type decimal64 {
fraction-digits 2;
}
description
"The arithmetic mean value of the q-margin over the time interval of 10 or
30 sec. (in units of dB).";
}

                leaf min {
type decimal64 {
fraction-digits 2;
}
description
"The minimum value of the q-margin over the time interval of 10 or 30 sec.
(in units of dB).";
}

                leaf max {
type decimal64 {
fraction-digits 2;
}
description
"The maximum value of the q-margin over the time interval of 10 or 30 sec.
(in units of dB).";
}
leaf min-time {
type decimal64 {
fraction-digits 2;
}
}
}
}

```



```

description
    "The absolute time at which the minimum value occurred.
    The value is the timestamp in nanoseconds relative to
    the Unix Epoch (Jan 1, 1970 00:00:00 UTC).";
}

    leaf max-time {
        type decimal64 {
            fraction-digits 2;
        }
description
    "The absolute time at which the maximum value occurred.
    The value is the timestamp in nanoseconds relative to
    the Unix Epoch (Jan 1, 1970 00:00:00 UTC).";
}

        leaf interval {
            type decimal64 {
                fraction-digits 2;
            }
description
    "If supported by system, this reports the time interval
    over which the min/max/average statistics are computed by the
    system.";
        }
    }
}
description
    "This augment extends the operational data of
    'terminal-otn-protocol-state'";
}
description
    "This augment extends the operational data of
    'terminal-otn-protocol-top'";
}
}
}

```



Note The CLI appearing in bold is the augmented code added to the existing Cisco native model.

OpenConfig Support for FEC Data

Table 4: Feature History

Feature Name	Release Information	Feature Description
OpenConfig Support for FEC Data	Cisco IOS XR Release 24.3.1	OpenConfig model support is added for Forward Error Correction (FEC) data on the NCS 1014 chassis. It helps in avoiding deviations in the pre-fec-ber and post-fec-ber leaves for pluggables.

In the NCS 1014 chassis, Forward Error Correction (FEC) is enabled on all 400G pluggables and in 100G deployments. The OpenConfig model allows monitoring of FEC statistics through NetConf and telemetry for the NCS1K14-2.4T-X-K9 card.

Purpose of OpenConfig Support for FEC Data in NCS 1014 Chassis

In the NCS 1014 chassis, Cisco native models do not support the **pre-fec-ber** and **post-fec-ber** containers which are needed for monitoring FEC statistics on the NCS1K14-2.4T-X-K9 card. The OpenConfig model can be used for this purpose by extending the existing native commands.

Benefits of Providing OpenConfig Support for FEC Data in NCS 1014

Enabling OpenConfig model support for FEC data in NCS 1014 avoids deviations in the **pre-fec-ber** and **post-fec-ber** leaves for transceivers across all routing and optical platforms.

Supported FEC Parameters

The instant data and performance monitoring statistics parameters are enabled for supporting FEC on transceivers are:

- min,
- max,
- avg,
- min-time and
- max-time,
- instant.

Enabling OpenConfig Support for FEC Data

To enable OpenConfig operations and telemetry support for FEC data, refer to the example.

The entry highlighted in bold shows the newly added OpenConfig model telemetry support for FEC data.

```
module: openconfig-platform-transceiver
augment /oc-platform:components/oc-platform:component:
  +--rw transceiver
    +--rw config
      | +--rw enabled? boolean
      | +--rw form-factor-preconf? identityref
      | +--rw ethernet-pmd-preconf? identityref
      | +--rw fee-mode? identityref
    +--ro state
      | +--ro enabled? boolean
      | +--ro form-factor-preconf? identityref
      | +--ro ethernet-pmd-preconf? identityref
      | +--ro fee-mode? identityref
      | +--ro present? enumeration
      | +--ro form-factor? identityref
      | +--ro connector-type? identityref
      | +--ro vendor? string
      | +--ro vendor-part? string
      | +--ro vendor-rev? string
      | +--ro ethernet-pmd? identityref
      | +--ro sonet-sdh-compliance-code? identityref
      | +--ro otn-compliance-code? identityref
      | +--ro serial-no? string
      | +--ro date-code? oc-yang:date-and-time
      | +--ro fault-condition? boolean
      | +--ro fee-status? identityref
      | +--ro fee-uncorrectable-blocks? yang:counter64
```

```

    | +--ro fee-uncorrectable-words? yang:counter64
    | +--ro fee-corrected-bytes? yang:counter64
    | +--ro fee-corrected-bits? yang:counter64
+--ro pre-fec-ber
  | +--ro instant? decimal64
  | +--ro avg? decimal64
  | +--ro min? decimal64
  | +--ro max? decimal64
  | +--ro interval? oc-types:stat-interval
  | +--ro min-time? oc-types:timeticks64
  | +--ro max-time? oc-types:timeticks64
+--ro post-fec-ber
  | +--ro instant? decimal64
  | +--ro avg? decimal64
  | +--ro min? decimal64
  | +--ro max? decimal64
  | +--ro interval? oc-types:stat-interval
  | +--ro min-time? oc-types:timeticks64
  | +--ro max-time? oc-types:timeticks64
+--ro output-power
  | +--ro instant? decimal64
  | +--ro avg? decimal64
  | +--ro max-time? oc-types:timeticks64
+--ro input-power
  | +--ro instant? decimal64
  | +--ro avg? decimal64
  | +--ro min? decimal64
  | +--ro max? decimal64
  | +--ro interval? oc-types:stat-interval
  | +--ro min-time? oc-types:timeticks64
  | +--ro max-time? oc-types:timeticks64
+--ro laser-bias-current
  .....
+--ro laser-bias-current
  +--ro instant? decimal64
  +--ro avg? decimal64
  +--ro min? decimal64
  +--ro max? decimal64
  +--ro interval? oc-types:stat-interval
  +--ro min-time? oc-types:timeticks64
  +--ro max-time? oc-types:timeticks64
augment / oc-if:interfaces/oc-if:interface/oc-if:state:
+--ro transceiver? -> /oc-platform:components/component[oc
platform:name=current()/../oc-port:hardware-port]/ocplatform:subcomponents/subcomponent/name
augment / oc-if:interfaces/oc-if:interface/oc-if:state:
+--ro physical-channel* -> /oc-platform:components/component[oc
platform:name=current()/../oc-transceiver:transceiver]/transceiver/physical▶
channels/channel/index

```

Instant value example:

```

instant value:
RP/0/RP0/CPU0:N112#sh controllers fourHundredGigEctrlr 0/2/0/1
Operational data for interface FourHundredGigEctrlr0/2/0/1:

```

State:

```

Administrative state: enabled
Operational state: Up
LED state: Green On
Maintenance: Disabled
AINS Soak: None
  Total Duration: 0 hour(s) 0 minute(s)
  Remaining Duration: 0 hour(s) 0 minute(s) 0 second(s)
Laser Squelch: Disabled

```

```

Insert Idle Ingress: Disabled
Insert Idle Egress: Disabled

```

Phy:

```
Media type: Not known
```

```
Statistics:
```

```
FEC:
```

```

    Corrected Codeword Count: 35409983      Valid: True      Start time:
14:45:53 Mon Aug 19 2024

```

```

    Uncorrected Codeword Count: 56          Valid: True      Start time:
14:45:53 Mon Aug 19 2024

```

```
PCS:
```

```

    Total BIP errors: 0                    Valid: True      Start time:
14:45:53 Mon Aug 19 2024

```

```

    Total frame errors: 0                 Valid: False     Start time:
14:45:53 Mon Aug 19 2024

```

```

    Total Bad SH: 0                      Valid: False     Start time:
14:45:53 Mon Aug 19 2024

```

Autonegotiation disabled.

Operational values:

```
Speed: 400Gbps
```

```
Duplex: Full Duplex
```

```
Flowcontrol: None
```

```
Loopback: None (or external)
```

```
Pre FEC BER: 1.5E-09
```

```
Post FEC BER: 0.0E+00
```

```
BER monitoring:
```

```
Not supported
```

```
Forward error correction: Standard (Reed-Solomon)
```

```
Holdoff Time: 0ms
```

Output CLI example of pre-fec and post-fec ber parameters:

```
min/max/avg:
```

```
RP/0/RP0/CPU0:N112#sh controllers fourHundredGigEctrlr 0/2/0/1 pm current 15-min fec
```

```
Ethernet FEC in the current interval [06:00:00 - 06:07:12 Tue Aug 20 2024]
```

```
FEC current bucket type : Valid
```

```
EC-WORDS : 313148 Threshold : 0 TCA(enable) : NO
```

```
UC-WORDS : 0 Threshold : 0 TCA(enable) : NO
```

```
MIN AVG MAX Threshold TCA Threshold TCA
```

```
(min) (enable) (max) (enable)
```

```
PreFEC BER : 8.2E-10 1.7E-09 2.6E-09 0E-15 NO 0E-15 NO
```

```
PostFEC BER : 0E-15 0E-15 0E-15 0E-15 NO 0E-15 NO
```

```
Last clearing of "show controllers ETHERNET" counters 13:52:01
```

```
RP/0/RP0/CPU0:N112#
```

EDT enhancements

Table 5: Feature History

Feature Name	Release Information	Release Description
Enhanced EDT notifications for the OpenConfig-platform YANG model	Cisco IOS XR Release 25.2.1	This feature notifies you of deletions and updates for all components removed from or inserted into the system through Event-Driven Telemetry (EDT). These notifications are included under the OpticalChannel component of the EDT output for the sensor path <code>openconfig-platform:components/component/state</code>

The Event-Driven Telemetry (EDT) notifications for the `OpenConfig-platform` YANG model have been enhanced to better report system changes through telemetry by including additional notifications for component changes.

The additional notifications available for the telemetry sensor path

`"openconfig-platform:components/component/state"` are:

- **Delete Notifications:** Triggered when components are removed from the system.
- **Update Notifications:** Generated when new components are inserted into the system.
- **Change Detection:** Triggered when components are added, removed, or modified. The system detects these changes, updates the inventory database, and sends corresponding EDT notifications. This includes code updates to support these actions.

OpticalChannel component behavior

This enhancement is particularly helpful for the OpticalChannel component that is created whenever Coherent Optics (e.g., CIM8 in NCS1014) is configured.

It operates as a child of the `Optics0/x/0/x` component. Previously, when the configuration was removed or the optics were unplugged, a delete notification was sent only for the `Optics0/x/0/x` component, while the OpticalChannel component did not receive one.

With this enhancement, a delete notification will now also be sent for the OpticalChannel component when its corresponding configuration is removed or the optics are unplugged.

Benefits

This EDT enhancements have these benefits:

- All changes to system components, such as additions, deletions, and updates, are captured and reported through telemetry in real-time. This ensures a reliable and up-to-date view of the system state.
- By including delete notifications for child components like OpticalChannel, the telemetry system provides a more complete and consistent view of system state changes.

