



## Enhancements to Data Models

This section provides an overview of the enhancements made to data models.

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### Define Power State of Line Card Using Data Model

*Table 1: Feature History Table*

Feature Name	Release Information	Description
Control Line Card Power Using YANG Data Model	Release 7.5.1	The <code>oc-platform.yang</code> YANG data model enables or disables power to the line card and identifies its slot or chassis.  You can access this data model from the <a href="#">Github</a> repository.

This feature adds the following component paths to the model to configure and fetch the power state of the line card, enable/disable the power state, and slot ID of line cards:

- `/components/component/linecard/config/power-admin-state`
- `/components/component/linecard/state/power-admin-state`
- `/components/component/linecard/state/slot-id`

```
module: openconfig-platform-linecard
  augment /oc-platform:components/oc-platform:component:
    +--rw linecard
      +--rw config
        | +--rw power-admin-state?   oc-platform-types:component-power-type
      +--ro state
        +--ro power-admin-state?   oc-platform-types:component-power-type
        +--ro slot-id?             string
```

The following example shows the configuration to enable the line card in location "0/0" to power up:

```
<rpc xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="101">
  <edit-config>
    <target>
```

```

    <candidate/>
  </target>
</config>
<components xmlns="http://openconfig.net/yang/platform">
  <component>
    <name>0/0</name>
    <linecard xmlns="http://openconfig.net/yang/platform/linecard">
      <config>
        <power-admin-state>POWER_ENABLED</power-admin-state>
      </config>
    </linecard>
  </component>
</components>
</config>
</edit-config>
</rpc>

```

To disable the line card, use `POWER_DISABLED` in the state field.

In the following example, an RPC request is sent to retrieve the power state of all line cards:

```

<rpc xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="101">
  <get>
    <filter>
      <components xmlns="http://openconfig.net/yang/platform">
        <component>
          <linecard xmlns="http://openconfig.net/yang/platform/linecard">
            <state/>
          </linecard>
        </component>
      </components>
    </filter>
  </get>
</rpc>

```

The following example shows the RPC response to the request:

```

<?xml version="1.0"?>
<rpc-reply message-id="101" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <data>
    <components xmlns="http://openconfig.net/yang/platform">
      <component>
        <name>0/0</name>
        <linecard xmlns="http://openconfig.net/yang/platform/linecard">
          <state>
            <power-admin-state>POWER_ENABLED</power-admin-state>
            <slot-id>0/0</slot-id>
          </state>
        </linecard>
      </component>
    </components>
  </data>
</rpc-reply>

```

# Install Label in oc-platform Data Model

Table 2: Feature History Table

Feature Name	Release Information	Description
Enhancements to openconfig-platform YANG Data Model	Release 7.3.2	<p>The openconfig-platform YANG data model provides a structure for querying hardware and software router components via the NETCONF protocol. This release delivers an enhanced openconfig-platform YANG data model to provide information about:</p> <ul style="list-style-type: none"> <li>• software version</li> <li>• golden ISO (GISO) label</li> <li>• committed IOS XR packages</li> </ul> <p>You can access this data model from the <a href="#">Github</a> repository.</p>

The openconfig-platform (oc-platform.yang) data model is enhanced to provide the following data:

- IOS XR software version (optionally with GISO label)
- Type, description, operational status of the component. For example, a CPU component reports its utilization, temperature or other physical properties.
- List of the committed IOS XR packages

To retrieve oc-platform information from a router via NETCONF, ensure you configured the router with the SH server and management interface:

```
Router#show run
Building configuration...
!! IOS XR Configuration version = 7.3.2
!! Last configuration change at Tue Sep  7 16:18:14 2016 by USER1
!
.....
.....
netconf-yang agent ssh
ssh server netconf vrf default
interface MgmtEth 0/RP0/CPU0/0
  no shut
  ipv4 address dhcp
```

The following example shows the enhanced `OPERATING_SYSTEM` node component (line card or route processor) of the oc-platform data model:

```
<component>
<name>IOSXR-NODE 0/RP0/CPU0</name>
<config>
<name>0/RP0/CPU0</name>
```

```

</config>
<state>
<name>0/RP0/CPU0</name>
<type xmlns:idx="http://openconfig.net/yang/platform-types">idx:OPERATING_SYSTEM</type>
<location>0/RP0/CPU0</location>
<description>IOS XR Operating System</description>
<software-version>7.3.2</software-version> -----> Label Info
<removable>>true</removable>
<oper-status xmlns:idx="http://openconfig.net/yang/platform-types">idx:ACTIVE</oper-status>
</state>
<subcomponents>
<subcomponent>
<name><platform>-af-ea-7.3.2v1.0.0.1</name>
<config>
<name><platform>-af-ea-7.3.2v1.0.0.1</name>
</config>
<state>
<name><platform>-af-ea-7.3.2v1.0.0.1</name>
</state>
</subcomponent>
...

```

The following example shows the enhanced `OPERATING_SYSTEM_UPDATE` package component (RPMs) of the `oc-platform` data model:

```

<component>
<name>IOSXR-PKG/1 <platform>-isis-2.1.0.0-r732</name>
<config>
<name><platform>-isis-2.1.0.0-r732</name>
</config>
<state>
<name><platform>-isis-2.1.0.0-r732</name>
<type xmlns:idx="http://openconfig.net/yang/platform-types">idx:OPERATING_SYSTEM_UPDATE</type>
<description>IOS XR Operating System Update</description>
<software-version>7.3.2</software-version>-----> Label Info
<removable>>true</removable>
<oper-status xmlns:idx="http://openconfig.net/yang/platform-types">idx:ACTIVE</oper-status>
</state>
</component>

```

### Associated Commands

- **show install committed**—Shows the committed IOS XR packages.
- **show install committed summary**—Shows a summary of the committed packages along with the committed IOS XR version that is displayed as a label.