

Fault Profiles

This chapter describes how to configure and manage fault profiles.

Table 1: Feature History

Feature Name	Release Information	Feature Description
Fault Profiles	Cisco IOS XR Release 7.3.1	This feature allows you to create a fault profile for faults on the system or on the line card. Each fault profile can contain one or more faults with user-defined severities. Commands added: • fault-profile • fault-profile apply

• Fault Profiles, on page 1
• Configure Fault Profiles, on page 2

Fault Profiles

The default fault list in a system captures all the possible types of faults that the system generates, along with the associated default severity values, for each fault type. This default severity value is the severity of the fault that is generated in a system when no other fault profile is defined and applied in that system. Based on your requirement, you can create new fault profiles and change the severity of fault.

The Fault Profiling feature enables you to create a fault profile for faults on the system or the line card. Each fault profile can contain one or more faults with user-defined severities. The highest precedence is maintained at the port level and the lowest precedence is maintained at the system (node) level. For example, if the system profile is already attached and if you want to have a separate fault profile for a node, you can create a node profile and attach it to that node. The node inherits the properties of the node profile.

The available severity levels are:

- Major
- Minor

- Critical
- Non-Faulted
- Non-Reported

The defined set of actions for a fault profile are:

- Create and delete a fault profile
- Add alarms to a fault profile
- Remove alarms from a fault profile
- Modify severity of alarm in an existing fault profile

Limitations of Fault Profiles

The following are the limitations for fault profiles:

- Fault profiling is available only on data path alarms—Ethernet, GFP, Optics, OTS, SDH, SONET, G709, and CPRI.
- You can create a maximum of 61 profiles.
- You can have only one fault profile for each level. Hence, you cannot apply more than one fault profile to node level and port level.

Configure Fault Profiles

This task performs the following:

- Creates a fault profile with a unique name and a fault type.
- Adds one or more alarms to the fault profile with a severity different from the default profile.
- Applies the fault profile at port or slot level or node level.

configure terminal

fault-profile *fault-profile-name*

fault identifier subsystem XR fault-type { **HW_GFP** | **HW_ETHERNET** | **HW_SDH_CONTROLLER** | **HW_SONET** | **HW_OPTICS** | **HW_G709** | **HW_CPRI** | **HW_OTS** } **fault-tag** *fault-name* **sas** *severity-level* **nsas** *severity-level*

commit

fault-profile *fault-profile-name* **apply rack** *0* **slot** { **ALL** | **LC1** | **LC2** | **LC3**} **port** *port-id*

commit

exit

severity-level (both sas and nsas) can take one of these values: CRITICAL, MAJOR, MINOR, NONFAULTED, or NONREPORTED.

For each **fault-type**, there is a list of *fault-name* corresponding to alarms that could be raised on the node. For example, the list of *fault-name* values for HW_OTS **fault-type** is OTS_AS_MT, OTS_APC_RUNNING, OTS_SWITCH_TO_PROTECT, OTS_APC_CONFIG_MISMATCH, OTS_APC_DISABLED, OTS_AUTO_POW_RED, OTS_AUTO_LASER_SHUT, OTS_AMPLI_GAIN_HIGH, OTS_AMPLI_GAIN_LOW, OTS_RX_LOC, OTS_RX_LOS_P, OTS_RX_POWER_FAIL_LOW, and OTS_TX_POWER_FAIL_LOW.

Examples

The following sample creates a fault profile and applies at port or slot level.

```
RP/0/RP0/CPU0:ios#configure terminal
RP/0/RP0/CPU0:ios(config)#fault-profile FpSystem fault-identifier subsystem XR
fault-type HW_OTS fault-tag OTS_SWITCH_TO_PROTECT sas NONFAULTED nsas NONFAULTED
RP/0/RP0/CPU0:ios(config)#commit
RP/0/RP0/CPU0:ios(config)#fault-profile FpSystem apply rack 0 slot LC2 port 1
RP/0/RP0/CPU0:ios(config)#commit
RP/0/RP0/CPU0:ios(config)#exit
```

The following sample creates a fault profile and applies at node level.

```
RP/0/RP0/CPU0:ios#configure terminal
RP/0/RP0/CPU0:ios(config)#fault-profile FpNode fault-identifier subsystem XR
fault-type HW_OTS fault-tag OTS_RX_LOS_P sas CRITICAL nsas CRITICAL
RP/0/RP0/CPU0:ios(config)#commit
RP/0/RP0/CPU0:ios(config)#fault-profile FpNode apply rack 0 slot ALL
RP/0/RP0/CPU0:ios(config)#commit
RP/0/RP0/CPU0:ios(config)#exit
```