Fixed Wireless: Point–to–Point Alarms

Document ID: 12521

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Introduction

This document covers the steps you need to investigate if your point–to–point (P2P) wireless card shows a minor or major alarm, if the link is down, or if the link is up but still shows an alarm.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Command–line usage

In order to perform the tasks in this document, you must have privileged EXEC ("enabled") access on the router you want to examine.

Components Used

The information in this document is based on these software and hardware versions:

- uBR7200
- Cisco IOS® Software Release 12.1(5)XM4 (or any Cisco IOS Software Release that supports Point–to–Point Fixed Wireless)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Minor Alarms

Minor alarms occur when the configured metrics−thresholds have been exceeded (for example, codewords errors). You can verify whether the link experiences codewords errors through a study of the output from the commands in this section.

In order to discover how the link performed since you powered on the system, issue this command:

```
show interface radio slot/port link-metrics
```

These metrics quantify how the link performed while the two ends of the link were synchronized:

```
show interface radio slot/port 24hour-metrics

!--- This command provides details for the last 32 days.


show interface radio slot/port radio 1hour-metrics 1Hr_options


!--- This command provides details for the last 24 hours.


show interface radio slot/port radio 1minute-metrics 1min_options


!--- This command provides details for the last 60 minutes.


show interface radio slot/port radio 1second-metrics 1sec_options


!--- This command provides details for the last 60 seconds.


show interface radio slot/port radio 1tick-metrics 1tick_options


!--- This command provides details for the last n hardware ticks.
```

The output from these commands verifies whether or not the radio frequency (RF) link experiences a problem.

Issue this command to clear the link−metrics and note whether the counters increment frequently:

```
clear radio interface radio link-metrics
```

If a minor alarm occurs on the card and you see lots of errors, you must investigate the RF link further. For assistance, refer to Wireless Point−to−Point Troubleshooting Guide. The problem can be interference or an RF−related issue that causes degradation of the signal.

If you see minor alarms, but the link is still up, the metrics−thresholds may be set too stringently. In order to view the currently configured settings, issue this command on the uBR:

```
show interface rX/0 metrics-threshold
```

This output indicates exactly where the thresholds are set and generates an alarm if the thresholds are exceeded. You can re−do the configuration of these thresholds if necessary.

A minor alarm can indicate an RF issue that needs further investigation. However, the alarm can be minor enough for the link to tolerate the alarm, depending on the physical environment limitations.

Major Alarms

Major alarms generally occur when the outdoor unit (ODU) does not receive DC power or some problem with the cabling between indoor unit (IDU) and ODU. Major alarms also occur when one of the sensors of the ODUs falls out of tolerance (over−temp, over−power, and so on). Major alarms usually indicate a hardware failure. For both scenarios, run a radio loopback test to eliminate the hardware as the culprit. Here are the configuration commands (on the radio interface):

```
radio loopback local if
radio loopback local rf
```

Perform both the RF and the IF loopback tests. These loopback tests only test the local site where you run them. These tests do not test over−the−air. If the IF loopback fails, a P2P line card is probably faulty. If the RF loopback fails, check whether there is a physical issue between the line card and ODU.

Turn Off the LEDs

The two alarm LEDs remain illuminated for the duration of the alarm. You can use the latch form of the **radio led latch off** command to cause the LEDs to remain illuminated. Use the command a second time to clear the LEDs.

In order to reset the settings of the LED to the default values, issue the **no radio led latch** command:

The alarms must clear.

Related Information

- **Cisco uBR7200 Series Universal Broadband Router Wireless Modem Card and Subsystem Installation and Configuration**
- **Technical Support & Documentation − Cisco Systems**

Updated: Dec 13, 2005   Document ID: 12521