10-Gigabit Ethernet WAN PHY Controller Commands

This module describes the commands to configure a 10-Gigabit Ethernet WAN PHY physical controller on the Cisco ASR 9000 Series Router.

To use commands of this module, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using any command, contact your AAA administrator for assistance.

For information on 10-Gigabit Ethernet (GE) interface commands see the *Ethernet Interface Commands* module.

- clear controller wanphy, on page 2
- clear counters wanphy, on page 3
- controller wanphy, on page 4
- report sd-ber, on page 6
- report sf-ber disable, on page 7
- show controllers wanphy, on page 8
- threshold sd-ber, on page 14
- threshold sf-ber, on page 15
clear controller wanphy

To clear the alarms counters for a specific 10-Gigabit Ethernet WAN PHY controller, use the clear controller wanphy command in EXEC mode.

clear controller wanphy interface-id stats

Syntax Description

- **interface-id**: Physical interface instance. Naming notation is rack/slot/module/port and a slash between values is required as part of the notation.
  - **rack**: Chassis number of the rack.
  - **slot**: Physical slot number of the line card.
  - **module**: Module number. A physical layer interface module (PLIM) is always 0. Shared port adapters (SPAs) are referenced by their subslot number.
  - **port**: Physical port number of the interface.

For more information about the syntax for the router, use the question mark (?) online help function.

- **stats**: Clears alarm counters for the specified 10-Gigabit Ethernet WAN PHY controller.

Command Default

No default behavior or values

Command Modes

EXEC mode

Command History

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.9.0</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

- **Task ID**: Operations
- **interface**: read, write, execute

Examples

This example shows how to configure a 10-Gigabit Ethernet WAN PHY controller in Slot 6:

```
RP/0/RSP0/CPU0:router # clear controller wanphy 0/6/0/0 stats
```

Related Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show controllers wanphy, on page 8</td>
<td>Displays alarms, registers, and module information for a 10-Gigabit Ethernet WAN PHY controller.</td>
</tr>
</tbody>
</table>
clear counters wanphy

To clear the alarms counters for a specific 10-Gigabit Ethernet WAN PHY interface, use the `clear counters wanphy` command in EXEC mode.

```
clear counters wanphy interface-id stats
```

**Syntax Description**

- **interface-id**  Physical interface instance. Naming notation is `rack/slot/module/port` and a slash between values is required as part of the notation.
  - *rack*: Chassis number of the rack.
  - *slot*: Physical slot number of the line card.
  - *module*: Module number. A physical layer interface module (PLIM) is always 0. Shared port adapters (SPAs) are referenced by their subslot number.
  - *port*: Physical port number of the interface.

For more information about the syntax for the router, use the question mark (?) online help function.

- **stats**  Clears alarm counters for the specified 10-Gigabit Ethernet WAN interface.

**Command Default**

No default behavior or values

**Command Modes**

EXEC mode

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.9.0</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

No specific guidelines impact the use of this command.

**Task ID**

<table>
<thead>
<tr>
<th>Task ID</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>interface</td>
<td>read, write, execute</td>
</tr>
</tbody>
</table>

**Examples**

This example shows how to clear the alarms counters for a 10-Gigabit Ethernet WAN interface:

```
RP/0/RSP0/CPU0:router # clear counters wanphy 0/6/0/0 stats
```

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show controllers wanphy, on page 8</td>
<td>Displays alarms, registers, and module information for a 10-Gigabit Ethernet WAN PHY controller.</td>
</tr>
<tr>
<td>clear controller wanphy, on page 2</td>
<td>Clears the alarms counters for a specific 10-Gigabit Ethernet WAN PHY controller.</td>
</tr>
</tbody>
</table>
controller wanphy

To enter WAN physical controller configuration mode in which you can configure a 10-Gigabit Ethernet WAN PHY controller, use the `controller wanphy` command in Global Configuration mode. To return the 10-Gigabit Ethernet WAN PHY controller to its default WAN mode configuration, use the `no` form of this command.

```
controller wanphy interface-id
```

**Syntax Description**

- **interface-id**: Physical interface instance. Naming notation is `rack/slot/module/port` and a slash between values is required as part of the notation.
  - `rack`: Chassis number of the rack.
  - `slot`: Physical slot number of the line card.
  - `module`: Module number. A physical layer interface module (PLIM) is always 0. Shared port adapters (SPAs) are referenced by their subslot number.
  - `port`: Physical port number of the interface.

For more information about the syntax for the router, use the question mark (?) online help function.

**Command Default**

No default behavior or values

**Command Modes**

Global Configuration

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Release 3.9.0</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

**Note**

After you use the `no controller wanphy` command to return a 10-Gigabit Ethernet WAN PHY controller to its default configuration, you need to cycle the power to the 10-Gigabit Ethernet SPA for the mode configuration changes to take effect.

**Task ID**

<table>
<thead>
<tr>
<th>Task ID</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>interface</td>
<td>read, write</td>
</tr>
</tbody>
</table>

**Examples**

This example shows how to enter WAN PHY controller configuration mode:

```
RP/0/RSP0/CPU0:router # configure
RP/0/RSP0/CPU0:router(config)# controller wanphy 0/6/0/0
RP/0/RSP0/CPU0:router(config-wanphy)#
```
<table>
<thead>
<tr>
<th>Related Commands</th>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>show controllers wanphy, on page 8</td>
<td>Displays alarms, registers, and module information for a 10-Gigabit Ethernet WAN PHY controller.</td>
</tr>
</tbody>
</table>
report sd-ber

To enable Signal Degrade (SD) Bit Error Rate (BER) reporting, use the report sd-ber command in wanphy configuration mode. To disable Signal Degrade (SD) Bit Error Rate (BER) reporting, use the no form of this command.

**Syntax Description**

This command has no keywords or arguments.

**Command Default**

Signal Degrade (SD) Bit Error Rate (BER) reporting is disabled by default.

**Command Modes**

Wanphy configuration

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2.0</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

No specific guidelines impact the use of this command.

**Examples**

This example shows how to enable Signal Degrade (SD) Bit Error Rate (BER) reporting.

```
RP/0/RSP0/CPU0:router# configure
RP/0/RSP0/CPU0:router(config)# controller wanphy 0/6/1/0
RP/0/RSP0/CPU0:router(config-wanphy)# report sd-ber
RP/0/RSP0/CPU0:router(config-wanphy)#
```

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>report sf-ber disable, on page 7</td>
<td>Disables SF BER reporting.</td>
</tr>
<tr>
<td>show controllers wanphy, on page 8</td>
<td>Displays alarms, registers, and module information for a 10-Gigabit Ethernet WAN PHY controller.</td>
</tr>
<tr>
<td>threshold sf-ber, on page 15</td>
<td>Configures the threshold of the SF BER that is used to trigger a link state change.</td>
</tr>
</tbody>
</table>
**report sf-ber disable**

To disable Signal Failure (SF) Bit Error Rate (BER) reporting, use the `report sf-ber disable` command in wanphy configuration mode. To enable Signal Failure (SF) Bit Error Rate (BER) reporting, use the no form of this command. In the case of A9K-8X100GE-SE line cards, the commands `report sf-ber` and `no report sf-ber` are used to enable and disable SF BER respectively.

**Syntax Description**

This command has no keywords or arguments.

**Command Default**

Signal Failure (SF) Bit Error Rate (BER) reporting is enabled by default.

**Command Modes**

Wanphy configuration

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2.0</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

No specific guidelines impact the use of this command.

**Task ID**

<table>
<thead>
<tr>
<th>Task ID</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>interface</td>
<td>read, write</td>
</tr>
</tbody>
</table>

**Examples**

This example shows how to disable Signal Failure (SF) Bit Error Rate (BER) reporting.

```
RP/0/RSP0/CPU0:router# configure
RP/0/RSP0/CPU0:router(config)# controller wanphy 0/6/1/0
RP/0/RSP0/CPU0:router(config-wanphy)# report sf-ber disable
RP/0/RSP0/CPU0:router(config-wanphy)#
```

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>report sd-ber</code>, on page 6</td>
<td>Enables Signal Degrade (SD) Bit Error Rate (BER) reporting.</td>
</tr>
<tr>
<td><code>show controllers wanphy</code>, on page 8</td>
<td>Displays alarms, registers, and module information for a 10-Gigabit Ethernet WAN PHY controller.</td>
</tr>
<tr>
<td><code>threshold sf-ber</code>, on page 15</td>
<td>Configures the threshold of the SF BER that is used to trigger a link state change.</td>
</tr>
</tbody>
</table>
show controllers wanphy

To display alarms, registers, and module information for a 10-Gigabit Ethernet WAN PHY controller, use the `show controllers wanphy` command in EXEC mode.

```
show controller wanphy interface-id [{alarms | all}]
```

**Syntax Description**

- `interface-id` Physical interface instance. Naming notation is `rack/slot/module/port` and a slash between values is required as part of the notation.
  - `rack`: Chassis number of the rack.
  - `slot`: Physical slot number of the line card.
  - `module`: Module number. A physical layer interface module (PLIM) is always 0. Shared port adapters (SPAs) are referenced by their subslot number.
  - `port`: Physical port number of the interface.

For more information about the syntax for the router, use the question mark (?) online help function.

- `alarms` Displays information about any alarms that are detected by the specified 10-Gigabit Ethernet WAN PHY controller.
- `all` Displays registers, alarms, and module information for the specified 10-Gigabit Ethernet WAN PHY controller.

**Command Default**

No default behavior or values

**Command Modes**

EXEC

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.9.0</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

No specific guidelines impact the use of this command.

**Task ID**

<table>
<thead>
<tr>
<th>Task ID</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>interface</td>
<td>read</td>
</tr>
</tbody>
</table>

**Examples**

This example shows sample output from the `show controllers wanphy` command with the `all` keyword:

```
RP/0/RSP0/CP0:router# show controllers wanphy 0/3/4/0 all

Interface: wanphy0_3_4_0
Configuration Mode: WAN Mode
SECTION
  LOF = 1, LOS = 1, BIP(B1) = 2912
LINE
```
AIS = 1, RDI = 0, FEBE = 949, BIP(B2) = 48562

**PATH**
- AIS = 1, RDI = 0, FEBE = 0, BIP(B2) = 0
- LOP = 0, NEWPTR = 0, PSE = 0, NSE = 0

**WIS ALARMS**
- SER = 9, FEPLMP = 0, FEAISP = 0
- WLOS = 1, PLCD = 0
- LFEBIP = 47260, PBEC = 949

Active Alarms (All defects): lof,
Active Alarms (Highest Alarms): lof

Rx(K1/K2): N/A, Tx(K1/K2): N/A
S1S0 = N/A, C2 = N/A

**PATH TRACE BUFFER**
- Remote IP addr: 000.000.000.000
- BER thresholds: N/A
- TCA thresholds: N/A

**REGISTERS**
- P_FEBE : 949
- L_FE_BIP: 47260
- L_BIP : 48562
- P_BEC : 949
- S_BIP : 2912
- J1-Rx0 : 0x3136
- J1-Rx1 : 0x352e
- J1-Rx2 : 0x3234
- J1-Rx3 : 0x332e
- J1-Rx4 : 0x3132
- J1-Rx5 : 0x3900
- J1-Rx6 : 0x3138
- J1-Rx7 : 0x372e

**Internal Information**
- Operational Mode : WAN Mode
- Current Alarms: 0x8

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
</table>
| Interface | Identifies the WAN physical interface, in the format rack/slot/module/port.  
  - **rack**: Chassis number of the rack.  
  - **slot**: Physical slot number of the line card.  
  - **module**: Module number. A physical layer interface module (PLIM) is always 0.  
  - **port**: Physical port number of the interface. |
<p>| Configuration Mode | Current configuration mode running on this controller. Can be WAN mode or LAN mode. |</p>
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
</table>
| SECTION | Displays the following section alarms:  
  - LOF—Number of Loss of Framing (LOF) errors on this connection section. LOF alarms are critical because they indicate that the link associated with this section is down.  
  - LOS—Number of loss of signal (LOS) errors on this connection section. LOS alarms are critical because they indicate that the link associated with this section is down.  
  - BIP(B1)—Number of bit interleaved parity (BIP) B1 errors on this section that exceeded the specified threshold. |
| LINE | Displays the following line alarms:  
  - AIS—Number of AIS errors on this line. AIS alarms are critical because they indicate that the line is down.  
  - RDI—Remote defect indication.  
    - Line remote defect indication is reported by the downstream LTE when it detects LOF4, LOS5, or AIS6.  
    - Path remote defect indication is reported by the downstream PTE when it detects a defect on the incoming signal.  
  - FEBE—Number of far-end block errors (FEBE) on this line. Line FEBE errors are accumulated from the M0 or M1 byte, and are reported when the downstream LTE detects BIP7 (B2) errors.  
  - BIP(B2)—Number of bit interleaved parity (BIP) B2 errors on this line that exceeded the specified threshold. |
| PATH | Displays the following path alarms:  
  - AIS—Number of AIS errors on this path. AIS alarms are critical because they indicate that the line associated with this path is down.  
  - RDI—Number of RDI errors on this path. Path RDI is a legacy alarm and is not supported.  
  - FEBE—Number of FEBE errors on this path. Path FEBEs are accumulated from the G1 byte, and are reported when the downstream PTE detects BIP (B3) errors.  
  - BIP(B2)—Number of bit interleaved parity (BIP) errors on this path that exceeded the specified threshold.  
  - LOP—Number of loss of pointer (LOP) errors on this path. Path LOPs are reported as a result of an invalid pointer (H1, H2) or an excess number of new data flag enabled indications.  
  - NEWPTR—Inexact count of the number of times the SONET framer has validated a new SONET pointer value (H1, H2).  
  - PSE—Inexact count of the number of times the SONET framer has detected a positive stuff event (PSE) in the received pointer (H1, H2).  
  - NSE—Inexact count of the number of times the SONET framer has detected a negative stuff event in the received pointer (H1, H2). |

**Note**  
For Cisco IOS XR software release 3.5.0, the following fields display no errors: RDI FEBE BIP(B2) NEWPTR PSENSE
### Field | Description
--- | ---
WIS ALARMS | Displays the following WAN Interconnect Sublayer (WIS) layer alarms:
• SER—Number of Severely Errored Frames (SER) errors
• FELCDP—Number of Far End - Loss of Code-group Delineation - Path (FELCDP) errors
• FEAISP—Number of Far End - AIS - Path (FEAISP) errors
• WLOS—Number of WIS LOS (WLOS) errors.
• PLCD—Number of Path Loss of Code-group Delineation (PLCD) errors
• LFEBIP—Number of Line - Far End - BIP (LFEBI) errors
• PBEC—Number of Path - Block Error Counter (PBEC) errors

**Note** | Alarms are applicable only when the controller is configured in WAN-PHY mode.

Active Alarms [All defects] | Total number of currently active alarms on this interface.

**Note** | Alarms are applicable only when the controller is configured in WAN-PHY mode.

Active Alarms [Highest Alarms] | Total number of the most significant active alarms on this interface. These alarms are likely causing all other alarms on the interface.

**Note** | Alarms are applicable only when the controller is configured in WAN-PHY mode.

Rx(K1/K2) | Total number of errored K1/K2 bytes from the Line OverHead (LOH) of the SONET frame that were received by this interface.

Tx(K1/K2) | Total number of errored K1/K2 bytes from the Line OverHead (LOH) of the SONET frame that were transmitted by this interface.

S1S0 | Number of errored payload pointer bytes on this interface.

C2 | Number of errored STS identifier (C1) bytes on this interface.

PATH TRACE BUFFER | Rx J1 trace buffer received from the far end. If the received data is valid it will be shown below the PATH TRACE BUFFER field.

Remote IP addr | Byte string containing the IP address of the remote end of this connection. If the received data is invalid, this field displays no IP address.

BER thresholds | BER threshold values of the specified alarms for the 10-Gigabit Ethernet controller.

TCA thresholds | TCA threshold values of the specified alarms for the 10-Gigabit Ethernet controller.
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>REGISTERS</td>
<td>Displays output from the following registers in hexadecimal format:</td>
</tr>
<tr>
<td></td>
<td>• P_FEBE—Total number of Far End Block Errors (FEBEs) that occurred on the path that is associated with this interface.</td>
</tr>
<tr>
<td></td>
<td>• L_FE_BIP—Total number of far end BIP errors that occurred on this interface.</td>
</tr>
<tr>
<td></td>
<td>• L_BIP—Total number of local BIP errors that occurred on this interface.</td>
</tr>
<tr>
<td></td>
<td>• P_BEC—Total BIP error count (BEC) that occurred on the path that is associated with this interface.</td>
</tr>
<tr>
<td></td>
<td>• S_BIP—Total number of far end BIP errors that occurred on the current section.</td>
</tr>
<tr>
<td></td>
<td>• J1-Rx0—Characters from far end IPV4 address string.</td>
</tr>
<tr>
<td></td>
<td>• J1-Rx1—Characters from far end IPV4 address string.</td>
</tr>
<tr>
<td></td>
<td>• J1-Rx2—Characters from far end IPV4 address string.</td>
</tr>
<tr>
<td></td>
<td>• J1-Rx3—Characters from far end IPV4 address string.</td>
</tr>
<tr>
<td></td>
<td>• J1-Rx4—Characters from far end IPV4 address string.</td>
</tr>
<tr>
<td></td>
<td>• J1-Rx5—Characters from far end IPV4 address string.</td>
</tr>
<tr>
<td></td>
<td>• J1-Rx6—Characters from far end IPV4 address string.</td>
</tr>
<tr>
<td></td>
<td>• J1-Rx7—Characters from far end IPV4 address string.</td>
</tr>
<tr>
<td></td>
<td>Note The following Serdes-WIS HW registers are used to debug counters and can be cleared only by power cycling the hardware: P_FEBEL_FE_BIPL_BIPP_BECS_BIP.</td>
</tr>
<tr>
<td></td>
<td>The J1-Rx registers (J1-Rx0 through J1-Rx7) comprise the raw 16 bytes of data received from the Rx J1 Path Trace Buffer, and are used to debug IPV4 address sent from far end.</td>
</tr>
<tr>
<td>Internal</td>
<td>Displays the following internal information for the interface:</td>
</tr>
<tr>
<td>Information</td>
<td>• Operational Mode—Current operation mode for this controller. Can be WAN mode or LAN mode.</td>
</tr>
<tr>
<td></td>
<td>• Current Alarms—Bit map of all currently active alarms on this controller. Use this information for debugging purposes.</td>
</tr>
<tr>
<td>Note</td>
<td>Alarms are applicable only when the controller is configured in WAN-PHY mode.</td>
</tr>
</tbody>
</table>

The following example shows sample output from the `show controllers wanphy` command with the `alarms` keyword:

```
RP/0/RSP0/CPU0:router# show controllers wanphy 0/3/4/0 alarms
Interface: wanphy0_3_4_0
Configuration Mode: WAN Mode
SECTION
  LOF = 1, LOS = 1, BIP(B1) = 2912
LINE
  AIS = 1, RDI = 0, FEBE = 949, BIP(B2) = 48562
PATH
  AIS = 1, RDI = 0, FEBE = 0, BIP(B2) = 0
  LOF = 0, NEWPTR = 0, PSE = 0, NSE = 0
WIS ALARMS
  SER = 9, FELCDP = 0, FEAISP = 0
  WLOS = 1, PLCD = 0
```
LFEBIP = 47260, PBEC = 949

Active Alarms[All defects]:
Active Alarms[Highest Alarms]:
   Rx(K1/K2): N/A, Tx(K1/K2): N/A
   S1S0 = N/A, C2 = N/A
PATH TRACE BUFFER
Remote IP addr: 981.761.542.321
BER thresholds: N/A
TCA thresholds: N/A

The alarm information displayed in the `show controllers wanphy interface-id alarms` command output are described in Table 1: `show controllers wanphy Command Output Fields`, on page 9.

<table>
<thead>
<tr>
<th>Related Commands</th>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>clear controller wanphy, on page 2</td>
<td>Clears the alarms counters for a specific 10-Gigabit Ethernet WAN PHY controller.</td>
</tr>
</tbody>
</table>
**threshold sd-ber**

To configure the threshold of the Signal Degrade (SD) Bit Error Rate (BER) that is used to trigger a signal degrade alarm, use the `threshold sd-ber` command in wanphy configuration mode. To return the Signal Degrade (SD) Bit Error Rate (BER) to the default value, use the `no` form of this command.

```
threshold sd-ber  exponent
```

**Syntax Description**

| Value of 10 raised to the \( n \) power, where \( n \) is the exponent of 10, as in10\(^{-n}\). Valid values are 3 to 9, meaning 10\(^{-3}\) to 10\(^{-9}\). |

**Command Default**

The default is 6, meaning (10\(^{-6}\)).

**Command Modes**

Wanphy configuration

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Release 5.2.0</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

No specific guidelines impact the use of this command.

**Task ID**

<table>
<thead>
<tr>
<th>Task ID</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>interface</td>
<td>read, write</td>
</tr>
</tbody>
</table>

**Examples**

This example shows how to configure sd-ber threshold:

```
RP/0/RSP0/CPU0:router# configure
RP/0/RSP0/CPU0:router(config)# controller wanphy 0/6/1/0
RP/0/RSP0/CPU0:router(config-wanphy)# threshold sd-ber 9
```

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>report sd-ber, on page 6</td>
<td>Enables Signal Degrade (SD) Bit Error Rate (BER) reporting.</td>
</tr>
<tr>
<td>report sf-ber disable, on page 7</td>
<td>Disables SF BER reporting.</td>
</tr>
<tr>
<td>threshold sf-ber, on page 15</td>
<td>Configures the threshold of the SF BER that is used to trigger a link state change.</td>
</tr>
</tbody>
</table>
threshold sf-ber

To configure the threshold of the Signal Failure (SF) Bit Error Rate (BER) that is used to trigger a link state change, use the `threshold sf-ber` command in wanphy configuration mode. To return the Signal Failure (SF) Bit Error Rate (BER) to the default value, use the `no` form of this command.

`threshold sf-ber exponent`

**Syntax Description**

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>exponent</code></td>
<td>Value of 10 raised to the <code>n</code> power, where <code>n</code> is the exponent of 10, as in 10⁻ⁿ. Valid values are 3 to 9, meaning 10⁻³ to 10⁻⁹.</td>
</tr>
</tbody>
</table>

**Command Default**
The default is 3, meaning (10⁻³).

**Command Modes**
Wanphy configuration

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
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</thead>
<tbody>
<tr>
<td>5.2.0</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**
No specific guidelines impact the use of this command.

**Task ID**

<table>
<thead>
<tr>
<th>Task ID</th>
<th>Operations</th>
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</thead>
<tbody>
<tr>
<td>interface</td>
<td>read, write</td>
</tr>
</tbody>
</table>

**Examples**

This example shows how to configure the threshold of the Signal Failure (SF) Bit Error Rate (BER):

```
RP/0/RSP0/CPU0:router # configure
RP/0/RSP0/CPU0:router(config)# controller wanphy 0/6/1/0
RP/0/RSP0/CPU0:router(config-wanphy)# threshold sf-ber 9
RP/0/RSP0/CPU0:router(config-wanphy)#
```

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
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<tbody>
<tr>
<td><code>report sd-ber</code>, on page 6</td>
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<td>Disables SF BER reporting.</td>
</tr>
<tr>
<td><code>show controllers wanphy</code>, on page 8</td>
<td>Displays alarms, registers, and module information for a 10-Gigabit Ethernet WAN PHY controller.</td>
</tr>
</tbody>
</table>
threshold sf-ber